

SEQUENCE LISTING

<110> Wood, Marion
Shenk, Michael A.
McGrath, Annette
Glenn, Matthew

<120> Compositions and methods for the
modification of plant gene transcription.

<130> 11000.1021C1U

<160> 2368

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 396

<212> DNA

<213> Eucalyptus grandis

<400> 1

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| agagagatga | tctgggcttg | agcttgagcc | tgagcttccc | tcagggtcac | ctgcatcagc | | | | 180 |
| agcagcagca | gcagcagcag | cagtcctcgtc | agctgaacct | catgccctcc | ttgggtcccg | | | | 240 |
| cctctgcttc | gtctgtctca | tctgggttca | atcttcagaa | gcgctcctgc | aacgacgcct | | | | 300 |
| tcccttcttc | ttcagatcgg | aactccgagg | cgcgatcgtt | cctccggggg | atcgacgtga | | | | 360 |
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<210> 2

<211> 725

<212> DNA

<213> Eucalyptus grandis

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| tatcaaccag | aggaagagaa | actggcacag | taaccgcgtc | acctctactg | tcctgaagag | 120 |
| caagcgcaaa | aggtaattat | attaagccag | tgagtgaatt | aacttgattc | ttctagagct | 180 |
| tctcaccaac | taaaaattca | aatgaagta | atgcagggtga | aatagcagt | gaccgcttca | 240 |
| tgtagattaa | ggaaaattgt | aaactaaact | ccttcgcagt | cgtgcatgtg | ctcatgatcc | 300 |
| agtggcacat | atggttgggtg | gcaaataag | cgcaatttc | ttttgattct | gtagaggaag | 360 |
| agcctaacat | agatgagaaa | aatctgccc | ctttctgctg | ctgtaaagga | accacaaact | 420 |
| aaattcggag | ggcagatcca | aaacttatac | ccgcatcacg | tggaagtcct | ggaataaaga | 480 |
| ttgctgtctc | gtaaattatg | tgaacgatt | ctgctgcac | ggctgatggg | tgtaattttt | 540 |
| gtttaccata | ttcatatatg | tgaataagta | cagagaagg | ttgtgggtgt | atagtacaat | 600 |
| agctctcgtt | tagttccata | cacgtatagt | agatagagat | tatagcatgt | taggtgttgt | 660 |
| catttctact | gtagtgtacg | cttgtgaagc | aaatgtagct | tggtcttgat | taacaaaaaa | 720 |
| aaaaa | | | | | | 725 |

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<212> DNA

<213> Eucalyptus grandis

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ctcgatcctg cccgatgg 78

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<213> Eucalyptus grandis

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tggagtggat g 791

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<211> 403
<212> DNA
<213> Eucalyptus grandis

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ctccacgtgc ctcacgatag gcttgccccg cggggaggcg tgccggctgg gatccgcgag 180
tggggacgag gtcaggaaca tcccagacag gtcggcatcg tcgttctcaa actcaagcag 240

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| tgccaagagg | gagaaggcgg | agcaaggaga | ggaagaagcg | gttgagagag | ggacgggctc | 300 |
| gccgagggcg | actatcaata | tcgaagatga | agatgagttc | agccccagga | agaagctcag | 360 |
| gcttttctaaa | gcacaaagtt | ccatttttgga | agagatgctt | caa | | 403 |

<210> 7
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 <212> DNA
 <213> Eucalyptus grandis

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| gaaaattcaa | tacgctacct | tgcttcgacc | gaagtcctct | ccctctctct | ctctctagac | 60 |
| atattcaaat | ccgattctct | ctctagcctc | cccgtcgcg | ctgtcgtcgc | cggtcgcctg | 120 |
| cgccgtcgca | gagccgcgga | ggaggagagg | gagagagaga | gagagagcgg | agagacgccg | 180 |
| gtgcggggat | ggggcagcag | tcgctgatct | acagcttcgt | ggcgcggggg | acggtgatcc | 240 |
| tggcgggacta | cacggagttc | accggcaact | tcaccagcgt | cgccttcag | tgctccaga | 300 |
| agctccccgc | caccaacaac | aagttcacct | acagctcgca | cggccacacc | ttcaacttcc | 360 |
| tcgtcgacga | cggcttcaca | tactgtgtgg | tggecggtga | atctgtcggg | cggcaagtcc | 420 |
| caattgcttt | ccttgagcga | gtcaaggatg | attttacaaa | gagatatggc | ggtggaaaag | 480 |
| ctgcaactgc | agttgccaaa | agcctaaca | aggaatttgg | gtccaaattg | aaggagcaga | 540 |
| tgcagtactg | tgtggatcat | ccagaggaga | tcagcaagct | tgctaaagta | aaagcccagg | 600 |
| tttcagaagt | aaaaggagtt | atgatggaaa | atatcgagaa | agttcttgat | cgtggagaga | 660 |
| aaattgagct | tctggctcgac | aaaactgaga | acctccgatc | ccaggcacaa | gatttcaggc | 720 |
| agcaggggtac | tcagatcaga | aggaagatgt | ggctgcagaa | catgaagatc | aagctgatcg | 780 |
| tactcggcat | tttgatcgct | ttgattctca | tcctcgtctt | atccatttgt | ggcaatggca | 840 |
| aatgtaaata | aatttttgag | ctttggagag | attgcattaa | tttcaagtca | cacacactat | 900 |
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<210> 8
 <211> 666
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| <400> 8 | | | | | | |
| gaagagaaaa | aagaggagcc | tccggctcca | ataacagtcg | tgttgaaggt | tggaatgcat | 60 |
| tgcgaagcat | gcactcgagt | tttgcgga | cgaatccgga | aaattaaagg | agtagagaca | 120 |
| gtggagaccg | acgtggtgaa | tgaccgggta | atagtcaaag | gtgtggtcga | cccgccgaag | 180 |
| ctggctcgcat | acgtgaaaaa | gagaacgggg | aagcaagcgt | cgattgtgaa | ggaagaggag | 240 |
| aagaaggaag | aggagaagaa | ggaagaggcg | aagaaggagg | aaagcaaaga | aggagagaag | 300 |
| aaggacggcg | aggaagggaa | ggacgaggac | ggctcgaaga | tggacataaa | gaagaacgag | 360 |
| tactggccct | ccaggcccta | catggaatat | caaatgtacc | caaccagat | cttcagcgat | 420 |
| gagaacccga | acgcttgctc | cgtgatgtag | tgtgatgtag | tgctgagagt | ttccaacctc | 480 |
| ggccccagtt | aagagtacgt | gtcgaggcaa | ttttccattg | tacttaaaaga | ttgctaataa | 540 |
| acagattcgc | gagaccggga | gtcgttggct | aattgtaatc | cgttgatgtt | ctgtaatctg | 600 |
| tgttaccaat | tgtctactct | cttaatgtga | aagtgtagat | gaattttcag | taaaaaaaaa | 660 |
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<210> 9
 <211> 352
 <212> DNA
 <213> Eucalyptus grandis

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| <400> 9 | | | | | | |
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| cttcacagaa | gagaatcggg | gggagaggga | aaatagagat | caaacggatc | gagaacacga | 120 |
| cgaaccggca | ggtcaccttt | tgtaaaccgc | ggaacgggtt | gttgaagaag | gcttatgagc | 180 |
| tatcgggtgt | gtgcgatgct | gaagtggcgc | ttattgtctt | ctcgagccgt | ggcaggctct | 240 |
| atgaatatgc | taacaacagt | gtcagaggaa | caattgagag | gtacaagaaa | gcaagcagtg | 300 |

attcctcaca tccacagtcc gtttctgaag tgaacactca gttttatcca gc 352

<210> 10
<211> 989
<212> DNA
<213> Eucalyptus grandis

<400> 10
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tggtgcaaaa aaaaaaaaaa aaaaaaaaaa 989

<210> 11
<211> 526
<212> DNA
<213> Eucalyptus grandis

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tccttggtgt taccaaattg gttgaagctt cttgtgggtt gctggacctg cagatttttg 180
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<211> 342
<212> DNA
<213> Eucalyptus grandis

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<210> 13
<211> 197

<212> DNA
<213> Eucalyptus grandis

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ataaagagag acctatg 197

<210> 14
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<212> DNA
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tt 182

<210> 15
<211> 983
<212> DNA
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<210> 16
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<210> 17
 <211> 60
 <212> DNA
 <213> Eucalyptus grandis

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 <210> 18
 <211> 60
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 <210> 19
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 <212> DNA
 <213> Eucalyptus grandis

 <400> 19
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 <210> 20
 <211> 48
 <212> DNA
 <213> Eucalyptus grandis

 <400> 20
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 <210> 21
 <211> 766
 <212> DNA
 <213> Eucalyptus grandis

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 aggcattgtc tgataatttg attgaattgg tcttcttttg gtgcattctc ctctgtgttt 720
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 <212> DNA
 <213> Eucalyptus grandis

<400> 22
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 <213> Eucalyptus grandis

<400> 24
 cagagagaga gagagagaga gagagagaga gagagaatgg catttgcagg aacaacccag 60
 aagtgcattg cctgtgagaa gacagtctat ctgggtggaca agctcacagc tgacaataga 120
 atctaccaca aggcctgctt cagatgccac cattgcaaag ggactctcaa gcttgggaac 180
 tataattcat ttgaaggagt cttgtactgc cggccgcatt tcgatcagct cttcaagaga 240
 actggcagcc tcgaaaaaag ctttgaaggg aacccccaa atttgcaaag cccagagaaa 300
 cccgtcgtgg agagagacct tcagcgacca aaggcttc 338

<210> 25
 <211> 338
 <212> DNA
 <213> Eucalyptus grandis

<400> 25
 gcggcaagga gcaactaaat gtaacactct gattactagg gacctctcat tgtcttttga 60
 tggcatttaa atcaccagga ggaatcacgt ggctgaaaca tttacttggt aagaactttt 120
 acttagggga gcatctaaaa tgcaggaatg ggctcatcaa gaaggcctac gagctctccg 180
 tcctctgcga catcgacatc gccctcatca tgttctcccc ctccgaccgc gtgagccact 240
 tttcgggaaa aagaaggatc gaggatgtct tgaccctgtt cattaacctc accgaccaag 300
 aacgagacac tcctagatgt ccaggatcgg cgcacacg 338

<210> 26
 <211> 301
 <212> DNA
 <213> Eucalyptus grandis

<400> 26
 caaaccttcc cagggtttcc atttccattt ccttcataga atgctccgtt cctttcttat 60
 ,cccttttttg gtactctctg ttctcatggg cctttcataa agttttctca tctcttaacc 120
 aagactggta agagagagag agatagagag tttattagtg ggtgaggggtg ttaaaaaatg 180
 ggaagagggg ggggttcagct gaagaggata gagaacaaaa ttaacaggca agtgaccttt 240
 tccaagagaa ggaatgggct cctcaagaag gcttatgagc tctcgctcct ctgtgatgct 300
 g 301

<210> 27
 <211> 188
 <212> DNA
 <213> Eucalyptus grandis

<400> 27
 cgagatctcc gtcctctgcg acgccgacgt cgccctcatc gtcttctcca ccaagggcaa 60
 gctcttcgag tacgccaccg actggtgcat ggagaggatc ctcgagcgtt atgagagata 120
 ttcatatgca gagagccagg ttctcacaaa caatgccgaa accaatggga actggacttt 180
 ggaacatg 188

<210> 28
 <211> 261
 <212> DNA
 <213> Eucalyptus grandis

<400> 28
 gtgattcctc acatccacag tccgtttctg aagtgaacac tcagttttat cagcaagaag 60
 catccaagct tcggagacag ataagagaaa tccaggcttc agataggcat cttctagggtg 120
 aggggtataag tgatttgagc ttcaaggatc tcaagaatct cgagagcaaa ttagagaaat 180
 cgatcagccg tgtttagatca aagaagaatg agatgctttt tgccgagatt gagtacatgc 240
 agatgagggg ccttgtgcag g 261

<210> 29
 <211> 298
 <212> DNA
 <213> Eucalyptus grandis

<400> 29
 gagaactctc gcaatgagtg ggatatactt tcaaattggg gacaagttca agaaatggca 60
 cacatagcaa atggtcgcga ccctggcaac agcgtctcgt tactccgcgt aaataatgca 120
 aattcgagcc agagcaacat gcttatactg caagaaagct gcacagactc tggtgggtgct 180
 tatgtgatct atgctccagt tgacattgtc gctatgaatg tcgtattaaa tgggtggcgac 240
 cccgactatg tagcgtgtgt accctcagggt tttgccatac ttcctgatgg gccagagt 298

<210> 30
 <211> 218
 <212> DNA
 <213> Eucalyptus grandis

<400> 30
 cgaccgagca ggtccatttc ctcgagaaga acttcgagct ggagaacaag ctcgagccgg 60
 agaggaagat ccagctcgcc aaggacctcg gtttgcagcc ccggcaagtc gcgatatggt 120

| | | | | | | |
|------------|-------------|------------|-------------|------------|------------|-----|
| tccagaaccg | ccgggccccga | tggaagacca | agcacttggga | gaaggaatac | gaagatctgc | 180 |
| aagccagcta | taacagcctc | aaggccgact | gcgacggc | | | 218 |

<210> 31
 <211> 240
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 31 | | | | | | |
| aaacaggcag | gtgaccttcg | ctaagaggag | gaatgggctg | ctcaagaagg | cctatgagct | 60 |
| ctctgtcttc | tgcgatgctg | aggtcgccct | cattatcttc | tccacccgcg | gcaagctcta | 120 |
| tgagttctgc | agcagcccta | gcattgctcaa | aacgctcgac | cgttaccaa | agtgcagcta | 180 |
| tggatccgtt | gaagttaaca | aacctccaa | agaactagag | aatgcctacc | gggagtactt | 240 |

<210> 32
 <211> 1223
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|------|
| <400> 32 | | | | | | |
| ggcccccttc | tctttctctc | tctctgtgtc | tgtctttctt | gtggatccac | caggctcgtc | 60 |
| tttaagaata | tacagcagcg | agcaggcaag | acaacgcccc | atctctcttc | tctctctctc | 120 |
| tctctctgtg | gctctgtctt | tcttttggtt | cttgccgttt | tgggggtgtg | gtgttgggtt | 180 |
| gtgtgaattg | gagcagggat | ggggaggggg | agactgcagc | tgaagaggat | agagaacaag | 240 |
| atcaaccggc | aagtcacctt | ctccaagagg | agggcgggtc | tgctcaagaa | ggcccacgag | 300 |
| atctccgtac | tctgcgacgc | cgaggtcgcc | ctcatcatct | tctccgcca | gggcaagctc | 360 |
| ttcgagtact | ccaccgattc | ctgcatggag | agaattctcg | aacgctatga | aagatactca | 420 |
| tattcggagc | accaagttct | tgcaagttag | acagaatcga | ttggtagctg | gactttggag | 480 |
| catgctaagc | tcaaggccag | acttgaagtt | ttacacagaa | attataggca | tttcatggga | 540 |
| gaagatcttg | attctttgag | tctcaaggac | ctccaaaatt | tggagcagca | actggagtct | 600 |
| gctcttaaac | acataagatc | gagaaagaat | cagctcatgc | atgaatcaat | ctcagtgcct | 660 |
| cagaaaaagg | atagggcatt | gcaggagcaa | aacaacctgc | ttacaaggaa | agtaaaggag | 720 |
| aaggagaggg | cactagcgca | gcaagctcag | tgggagcagc | aagaccatgc | ccttgactca | 780 |
| cctgttggtt | tacccacta | cttgccatct | ctcgacatca | atggctctta | tcaagcgaga | 840 |
| cacaacggac | acgatgacgg | agagaacctg | actcagcctc | gggctgggtac | acttcttctc | 900 |
| ccgtgggatg | tccaccgtct | caattaaggc | ttcgacataa | agggaaaactt | ctgctgctat | 960 |
| atctttgata | tgcaattctg | aagtcagctg | gatgaattgc | atggcataat | ctggggctct | 1020 |
| ccccaccctt | tggtctagcg | aaataaacat | acctctgctt | tttgctgcat | tcagtactcc | 1080 |
| taagtgtggt | cctccgtgta | tgtatagcac | cattgcaa | atgcatacca | atgtacatgt | 1140 |
| atgcaaaatt | atataatgaa | gttaacacaa | ccataaagca | gatggagaag | tataattgtt | 1200 |
| gctagcaaaa | aaaaaaaaaa | aaa | | | | 1223 |

<210> 33
 <211> 2148
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| <400> 33 | | | | | | |
| ccgatctctc | ccaatcccc | cctctcactc | tcccccaaaa | accagtctct | ggttttcctc | 60 |
| tctccccctg | acacacacac | attctctctc | ctccttccca | ccattattac | agaaacagca | 120 |
| gactgcgtag | tggtgaaaaa | cttgatccac | aattgattgg | gtaatgatga | tgatctagag | 180 |
| ggagagagag | agagagagag | agagagagag | agagagagag | agagagcata | aattcagtgc | 240 |
| aagcttttga | ttgggtgattg | gtgacatctc | ttctgggttg | ggtttgggtt | tgtgggtttg | 300 |
| ggtttgggtt | ggtcttttgc | ttgtgagagt | attattcttt | cttcaccctc | tgtgcatgaa | 360 |
| ttttcttggg | ccatgctcat | gcattctcct | cctctttctt | catcaccatc | gtcatcgtct | 420 |
| ctggctttga | tgggttggcg | aggggggggag | ctgagggaga | gggagaggag | aggagagagg | 480 |
| agcggctgtg | cgttcgcgtg | cagggctgca | cgagggtgtc | tcgtttcggg | cgcgggcgct | 540 |

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|------|
| ctgcttccat | ggctgctttt | aagtaagacg | ccaaaagaaa | acctttttgc | tctctcgagt | 600 |
| gtcatgaact | cgcactgaaa | gtgcgcgccg | aaccgagaag | aagaagaaga | agaagaagaa | 660 |
| gaagaaagag | aaaccatccc | cttagaaaac | gcgaaaaaga | gtaaatagta | aaaagagcaa | 720 |
| gcttgatctt | acttgatcta | aaacattaag | atccttctct | gttcgagaga | agtcacagtc | 780 |
| ccgctttttc | cagacatgaa | gagacttggc | agctcagatt | cggtgggtgc | tttgatgtcc | 840 |
| atctgcccac | cttcagagga | attgcagcac | agtccgagaa | acggcaaccc | catctaccac | 900 |
| agcagggacc | tgcagtccat | gctggagctg | ggcctcgacg | aggaaggctg | cgtggaggac | 960 |
| cagtccgccc | gcggcggggg | gcacgtcggc | ggcgagaaga | agcggcggtc | gagcatcgac | 1020 |
| caggtcaagg | ccctggagaa | gaacttcgag | gtggagaaca | agctcgagcc | ggagcggaag | 1080 |
| gtgaagctgg | cccaggagct | ggggctgcag | ccgcgccagg | tggccgtgtg | gttcacagaac | 1140 |
| cgccgcgcgc | ggtggaagac | gaagcagctg | gagcgggact | acggcgtgct | caagtcacag | 1200 |
| tacgaggcgc | tcaagctcag | ctacgacgcc | ctcaagcacg | acaacgaggc | ccttcacaag | 1260 |
| gagataaaa | agctgaaatc | gaaactccgg | gaagaagacg | acaaccccga | gagcaatctc | 1320 |
| tccgtcaaag | aagaggctcat | catccccggc | cacgacgtgt | cggacaagat | ccgggcccga | 1380 |
| gacgacggtg | acgacgacac | caaacgctct | cctccccctc | cgatcacccg | cccgcctcgc | 1440 |
| gagctgagct | tcaacaatgg | tgggctgaag | gacgggtcgt | ccgacagtga | ctcgagtgcg | 1500 |
| attgtgaacg | aagagaacgc | ggcgaccagc | agcagcagcc | cgaaccccgc | cgtccagagc | 1560 |
| cacggcggct | tcttgaaatt | catgggggtc | tcgtcctctt | cggcctcccc | accgccgccg | 1620 |
| ccaccggctt | ccttcggcgg | gtgcttcagc | ttccagttcc | agcgagcgta | ccagcctcag | 1680 |
| cctcagcctc | ctcaccacca | ccaccaccac | agtcctgacg | tgaagatgga | ggagcacaat | 1740 |
| ttcctcggcg | gcgaggagga | ctgcaacttc | ttctcccaac | aacaagcccc | caacccgcaa | 1800 |
| tgggaacgcc | ccaacaaggg | gaaacgaagg | aaaacaaact | ccccccgtgg | aaggggactc | 1860 |
| cagattagag | atcgataaaa | aaaatgtagg | gcgacaactc | cctagcttta | cgtgcttgtg | 1920 |
| aagtgaaca | aactctcggg | cacacgattg | cacgaatcac | ttcaaccggg | cacgacatga | 1980 |
| ctcgacacga | cgagaataag | atcgagctag | tgagagaaga | gtttgggcac | ggagcgacaa | 2040 |
| ttcgagtagt | atgcagttcc | ttattgcgcg | cggcattccg | gttataggat | gcaaattaga | 2100 |
| attgaatatg | atgcgatatg | gtaatgtttt | aaaaaaaaaa | aaaaaaaaaa | | 2148 |

<210> 34

<211> 273

<212> DNA

<213> Eucalyptus grandis

<400> 34

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gtctttgcgct | cggttcttga | gctcgttctt | gagagctgaa | cggagacgat | gggagaggaa | 60 |
| tcgttcatat | acagcttcgt | ggcgagaggg | acgatgatct | tggccgagta | cacggagtcc | 120 |
| acgggcaact | tcccggccat | agccgctcag | tgctccaga | aactcccttc | ctccaacaac | 180 |
| aagttcacct | actcctgcga | tcaccacacc | ttcaatttcc | tcctcgaaga | tggctacgct | 240 |
| tattgtgttg | tcgccaaaga | atcagtgggc | caa | | | 273 |

<210> 35

<211> 384

<212> DNA

<213> Eucalyptus grandis

<400> 35

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| attccattta | gcctctttcc | tcctcaatcg | gaagggttct | tcaacccaat | ggacggcaac | 60 |
| ctctcattgc | aaatcgata | caatccgaca | tgcttgagcg | agatgaatgc | ttcggtttgc | 120 |
| agccaaaatg | ttgccggatt | cattccggga | tggatgcttt | gaacttacta | catcgacttg | 180 |
| gagtgtgaat | cgagctgggt | aaatttgtgc | gcgtgtccct | tgtaaaattg | cgatccgcaa | 240 |
| gacaataagt | acataatatt | ttggagctgt | gatgacataa | aaagagggaag | gccacccttt | 300 |
| cctctctcat | yatcagaact | tttgataatg | tctgtatggc | ccggcagtg | aattggaacg | 360 |
| agctcagctt | tgcagttctt | ttcg | | | | 384 |

<210> 36

<211> 238

<212> DNA

<213> Eucalyptus grandis

<400> 36

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gcaggaggag | agcccatgtg | gattgcagga | cccgatggct | cttcaagcgt | gctgaatgaa | 60 |
| gacgagtaca | ttcgcgcatt | tcctcgtggg | atcgtaacaa | acccaccg | atttaagcgc | 120 |
| gaacctcacg | acaaaccggg | gtcatcatca | tgaatcacat | caatcttggt | gagattctca | 180 |
| tggatgtgaa | ccagtgggcc | actatattct | caagcatcgt | gtcaagagct | atgacttt | 238 |

<210> 37

<211> 698

<212> DNA

<213> Eucalyptus grandis

<400> 37

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| gccttggcac | gcagattcca | tcgggaatcc | atatgccttc | tgcgaaatctt | agttccatat | 60 |
| cgttcttggg | tcctattccc | atgggtatcg | gggatgggtg | tgggaggacc | ggttctgagc | 120 |
| gggtcaagaaa | cgctgattgt | gctccggcag | gttttctctg | aggtgatgaa | gatgtgaata | 180 |
| agggagggga | cattccttat | ggaatgtcaa | ccatcgtgag | agtcattccc | aattctaggt | 240 |
| acttgagggt | ggcgcagcaa | ctgcttgatg | aaatagttaa | tgtgcgaaag | gctttgaagc | 300 |
| gctctgatga | cgcgaaatgac | caatctagac | atgagaacca | aaggagcccc | aaagatgcgg | 360 |
| atgggggttc | caagaacgaa | gcacccctca | atccccaaga | atccgccagt | aactctagcg | 420 |
| agctttctgc | tgctgaaaaa | caagatttgc | agaacaagct | cacgaagctc | ttgtccatgt | 480 |
| tggacgaggt | tgataaaaag | tacaagcagt | actatcacca | aatgcagatc | gtggtacagt | 540 |
| cttttgatac | aatagcagga | agcgggtgcg | ccaagcccta | cacggcgctt | gcgctccaga | 600 |
| ggatatcccg | ccacttccgg | tgcttgcagt | acgcgatcac | gggtcaaatt | caagcaaccc | 660 |
| gtaaaagtct | cggagagcaa | gacacctcta | cagaaacg | | | 698 |

<210> 38

<211> 277

<212> DNA

<213> Eucalyptus grandis

<400> 38

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aattcttact | gacactccat | caaactggta | caccgcgtcc | tgaacatttc | acccagtgga | 60 |
| cctcaatgac | ttgatattct | agaatggata | ttggaactta | taggggttac | gtacagacgt | 120 |
| cttgatggaa | gtaccaggt | gacggacaga | caaagcatag | ttgacacttt | caataatgat | 180 |
| acttccatat | ttgcttgctt | gctttcgacg | agagctggag | gacagggttt | gaatttgacc | 240 |
| ggagctgaca | cggttgtcat | ccatgacatg | ggatttc | | | 277 |

<210> 39

<211> 225

<212> DNA

<213> Eucalyptus grandis

<400> 39

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tgttggcacc | atgtacacac | acagtgtggt | aaagcaggct | ttgggatgct | caagcaagag | 60 |
| aatctgagca | atgaactaga | taggggtcaa | aaggagaacg | acaacttgca | gattcagctc | 120 |
| aggcacctga | gaggaagaca | taacatcact | gaaccacaga | gagctgataa | tcctagaaga | 180 |
| cactcttgaa | aacggcctcg | gatgtgtccg | agaccagaag | gacga | | 225 |

<210> 40

<211> 341

<212> DNA

<213> Eucalyptus grandis

<400> 40

| | | | | | | |
|------------|------------|-----------|------------|------------|------------|----|
| aggcagcaaa | gagctcgagt | ccttggaag | acagctagat | gggtcattga | agcagatcag | 60 |
|------------|------------|-----------|------------|------------|------------|----|

gatggcacta gatgctagcc tttagagttg tgtatcggg

219

<210> 44

<211> 310

<212> DNA

<213> Eucalyptus grandis

<400> 44

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tattctgaag | caagttcaga | tgagggaaat | cagtattcta | cacgtgaaga | ggagggagag | 60 |
| attgaggagt | ttgaggagga | cacttacagt | gggtctcctg | gagcactacc | aatcaacaaa | 120 |
| gaccagtctg | atgaggatgt | tccggctgaa | gaatgtgatg | agtatccatg | gacatcagag | 180 |
| aggactagga | acaatcattt | gccggaagaa | gccggtttct | caggatcatc | ggcagacagt | 240 |
| cctagaggaa | tcaggatggc | atctccttct | gcttcttcac | agaaatttgg | atctttgtct | 300 |
| gcattagatt | | | | | | 310 |

<210> 45

<211> 1043

<212> DNA

<213> Eucalyptus grandis

<400> 45

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|------|
| tctctatctc | tgttctcgaa | cctctgcggc | gaattccttc | tctctataac | tgaagagtat | 60 |
| gaacgcgcca | taagcgtcgt | cgtcttcgtc | gtcatcgtca | tcatcaacgg | gattcctccc | 120 |
| atcgccctc | ctcctctccc | accgcatggc | cttccacaac | cacctctccc | accaggacct | 180 |
| ctcctccctc | caccacttcg | ccgccgacca | gcagccgccc | ccgccgcagc | accagcagca | 240 |
| gcagcagcac | ctgccggact | cctcctcctc | cgtccaccac | cagctccacc | acgccgccgg | 300 |
| ccccaaactg | ctcaacaccg | ccctcctccg | ctccgacgcc | gcggcgccgg | cggcgccggc | 360 |
| ggcgccggc | aacagcttcc | tcaacctgca | cacctcgtcc | gactccgccg | cgtcgccgca | 420 |
| ggcgagcag | cagccgccgg | cgacgtccgc | gtcgcccgcg | gcggggcacc | accagtggct | 480 |
| gtcgccgag | cactcgtcgc | tgctgcagcg | gaaccacagc | gaggtcatcg | acgcggactc | 540 |
| gatcatcgac | tcggcggatt | tgaaggagag | cgtgagcaag | ggggacggcg | ggggcgccgg | 600 |
| ggccgcggg | agtaattggg | agaatgccaa | gtacaaggcg | gagatattgg | cgcacccgct | 660 |
| gtacgagcag | ctgctgtcgg | ctcacgtggc | ttgcctgagg | attgccacgc | cggtcgacca | 720 |
| gttgcggagg | atcgacgctc | agctggctca | gtcgagcat | gtgggtggcca | agtactcggc | 780 |
| gatgagtcaa | ggattggctg | ctgatgataa | agagcttgat | cagttcatga | cacattatgt | 840 |
| cctcttgctt | tgctctttta | aagaacaact | gcagcaacat | gtccgtgtcc | atgccatgga | 900 |
| agctgtaatg | gcatgctggg | agattgagca | atccctgcaa | agcttaacag | gtgtttctcc | 960 |
| tggtgaaggt | actggggcaa | caatgtctga | tgacgaagat | gatcaagttg | atagtgcgcg | 1020 |
| caacttgttt | gatggaagtt | tag | | | | 1043 |

<210> 46

<211> 391

<212> DNA

<213> Eucalyptus grandis

<400> 46

| | | | | | | |
|------------|-------------|------------|------------|-------------|-------------|-----|
| ccaacaagtc | atatatcctc | gacttgctcc | cagtggaaac | ccttccatta | cttaatcgct | 60 |
| gctagcgcta | aacccccctc | actcttcacc | agcaaaaacg | ccttttctcg | cacacaaatg | 120 |
| ggtcgtcgta | aaattgaaat | acagccaata | acgcacgagc | gaaaccgatc | tgctcacattc | 180 |
| ctcaagcgca | agaacggggt | gttcaagaaa | gcgtatgagc | tcgggtgtgct | ctgctctgtc | 240 |
| gacgtcgctg | ttatcatctt | tgaggatcgc | ccagggcaca | gccccaaagc | ctaccagtac | 300 |
| tcgtctcgcg | gtatccagga | tattgtgcag | aggcatcttc | atcacgatgg | cgagactgat | 360 |
| aaccgtggcc | ctgggggactt | ttcggggcgt | g | | | 391 |

<210> 47

<211> 821

<212> DNA

<213> Eucalyptus grandis

<400> 47

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|------------|-----|
| ctaccgtacc | gcctcactta | aatatcatcg | ccgtttgtct | tcttgctcaa | ctgttccaaa | 60 |
| tcccaggatc | acagcaaaga | ttcccttcac | catagcacga | gcctccggct | cctgccgagc | 120 |
| cgtccaagcc | gaaatagcca | cgctagggaa | ccagggtccat | gtaacgcttc | gtaatcaatt | 180 |
| gaatgaagga | agcacagagg | gcgagccagc | gagcgagtga | aggaatagcg | cctcccgaca | 240 |
| cccgtatata | acagcaattc | aagaactgcg | cttccccaca | atcttcccag | tacaagctct | 300 |
| agacgggtctc | gactcaaagg | catggataaa | gtaagtgcct | cgtgtaatta | gactcaacca | 360 |
| ccttctctga | ttccccatat | ataccaccca | gaacgtcaat | caagcagagc | agcagcaccg | 420 |
| ttggctttta | agatgttttag | tacggggagaa | tattctgctg | ctgccttcga | aggcatggac | 480 |
| tcgctcccga | gcccaggaa | gaagaagaac | cagctgggtga | acagaagaag | gttcagtgat | 540 |
| gaacagatca | ggctactgga | gtctatcttt | gaatccgagt | cgaggctaga | gcctcggaag | 600 |
| aagctgcagc | tcgctaggga | attggggctg | cagccccgcc | aggtggccat | ttggttccag | 660 |
| aacaagagag | cccgtaggaa | gtccaagcag | ctggagcgtg | acttcgccat | tcttcgcgcc | 720 |
| aactacaacg | ccctctattc | ccggttcgag | tctctcaaga | aagagaagca | atccttggtc | 780 |
| actcagattg | agaaactaaa | ccaactcgtc | gagaagccgc | a | | 821 |

<210> 48

<211> 648

<212> DNA

<213> Eucalyptus grandis

<400> 48

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| cagaagcatc | tcgttttcagg | caaagcatga | aggttcatca | gttcgcacgt | ggattctttg | 60 |
| agctcgaacc | caccaccctc | acgctcgggt | gcaaacgcct | ccgccccctc | gttccaaagc | 120 |
| tccccacca | gaccgacgtg | gtctcgactg | ccgcatttgt | cgacatcaag | agcttcatcc | 180 |
| gcccgagag | cgccccgcgg | aggctcggct | cctcctctga | cgacaagaga | gaccctctc | 240 |
| aggtggaaac | acatccagga | gggacacgtt | ggaacccgac | acaagagcaa | atcggaatac | 300 |
| tcgagatgct | gtacagaggg | ggaatgagaa | ctcccaacgc | gcagcagatc | gagcagatca | 360 |
| cggcacagct | cagcaagtac | gggaagattg | aaggcaagaa | cgtgttctat | tggttccaga | 420 |
| acacaaaagg | ccgcgagagg | cagaagcaga | agcgcaacag | cctcggcctc | tctcactgct | 480 |
| cgagaacccc | caccacagcc | gccaccatcg | ccactgtaac | tttgaacact | actaaggtag | 540 |
| acagaaccat | actaccatat | ttttttcttc | attccggcat | tggtgtcaga | gcgctgcatg | 600 |
| atgcatgctg | acctcgacag | ttggttcgtc | ggactcatgc | ttcatgtg | | 648 |

<210> 49

<211> 559

<212> DNA

<213> Eucalyptus grandis

<400> 49

| | | | | | | |
|------------|-------------|------------|-------------|-------------|------------|-----|
| tattccctct | caatttttagc | ttctagcgtt | ctttttcccc | catttttatca | aatataatca | 60 |
| tcatcacgat | cgccctccct | tttctctct | ctattttctct | ctctctctct | ctctctcttt | 120 |
| ctctctctct | ctctcggagc | ttcagcaaga | ctgtcaggct | aaactgtgga | gtctcaaaga | 180 |
| ttccaacagg | aggagtgcgt | gcataaggct | caggacatga | cttgcaacta | gcgagggatt | 240 |
| ggactgatgg | ccttcttttt | accaaatttc | atgcttcaaa | gcccgcacga | tcaagatcat | 300 |
| gaacacctc | atcaccagca | tcagaccaga | tcctctctct | ttgcacgcct | caggacttcc | 360 |
| atgggtgttg | ctccctattg | ggcaagagat | ccatgtcctt | cacgggcatt | gacgtgggag | 420 |
| acgaccccaa | catcaacaac | ggcaacgtta | atggggagga | agatctgtcc | gaagatgatg | 480 |
| ggctcgagcc | agggggagag | aagaagagga | ggctcaacat | ggaacagggtg | aagacattgg | 540 |
| agaagaactt | tgagcttgg | | | | | 559 |

<210> 50

<211> 486

<212> DNA

<213> Eucalyptus grandis

<400> 50
 gggaaggcga ccgcttccgg cggcggtggc gggtagatga gcagcccggg ccctctcggg 60
 cctttcacgg gctacgcgtc gatcctcaag gggtagaggt tcttgaggcc cgcgcagcag 120
 ctgctggagg agctttgcga agctggccgc gcaatttgta ccgagaaaat gacggatgat 180
 tcgtgcgcga tgacggagcc tgccatggac agcttgagtg gtggttgtgg gattgggatg 240
 gacgatgggt gtgggtggaga cggcggcgag ttccgcggga agaagtcgag gttaatctcg 300
 atgcttgacg aggtctgcag gaggtacaag caatactgtc agcaaagca agctgttgta 360
 gcatcattcg aatgtgtggc ggggcttagt aatgcagctc cttacgcaa cttggcttta 420
 aaagctatgt ccaaacattt taagtgcctg aaaaatgcaa ttgctgacca acttcagttc 480
 accaac 486

<210> 51
 <211> 726
 <212> DNA
 <213> Eucalyptus grandis

<400> 51
 tttctctctc tatctccatc tctctctctc tctctctctt ggatcaagcc gaaatctctc 60
 tgctcaatcc ctctccgacg cgatctccgc cgcgcgcgcg gccgcgcgtc ctggacctcg 120
 atctctctct ctctctctct ctctctctcc cgcgcggagc ctccggcgat cccgcctcgc 180
 ttccgcttta ggggttttccc ctttcccccg ggggtggcgc gatttcggcg aggcattggt 240
 tcggatttcg cgggggggac catgggtcaa cagtcgctga tctacagctt cgtggcgcg 300
 gggacgggtg tcctcgccga gtacacggag ttcaccggca atttcacctc catcgctcc 360
 cagtgccctc agaagctccc cgccaccaac aacaagttca cctacaactg cgacggccac 420
 accttcaact acctcgctga gaacggattc acctattgcy tagttgcagc tgaatctgct 480
 ggcagacaga ttcccattgc tttcttggaa agaatacagg atgacttcaa caaaagatat 540
 ggtggaggaa aagctacaac agctgctgcc aacagcctga acagagaatt tgggtcccaag 600
 ttgaaggaa acatgcaata ctgcgttgac catcccgaag aaatcagcaa gcttgcgaaa 660
 gtgaaagctc aagtatctga agttaaagg gttatgatgg aaaatattga aaagggttctt 720
 gaccgg 726

<210> 52
 <211> 395
 <212> DNA
 <213> Eucalyptus grandis

<400> 52
 tgagtgggtg agtgtccaca ataagtggc ttacccaacg gaagccgaca agattgcgct 60
 ggccaaatcc actggcctcg accagaagca aataaataat tggttcatca atcagaggaa 120
 gcgtcattgg aaaccctcag agatcacaca ttataaagtc atttagacat tttgttaacc 180
 attcttgcat gaggttcaatt acagagcatg tagaatcaca atgccttccc ctttttttgg 240
 gggaattaaa gaggcaccac ggatgcgatg tacacaaaga aacaacatga gcgcagcagg 300
 aagcgatcac ctaatgtcgc agcaagcacg acatccagtt cacctcaatc agccactaat 360
 attgcccggg gatactgtcc atgagagcga attgc 395

<210> 53
 <211> 1700
 <212> DNA
 <213> Eucalyptus grandis

<400> 53
 cgaaaagggc agagggttaat gctctgcacc aaccgcctta ctctttctta aacctctcaa 60
 gcctctcact cttctgagct cattacttca cttacaacac actctctctc cctgtattag 120
 aaggaaagga tgagtaaaca agatgtcatg aagatgcaga cgtgtgttct cagagtgaac 180
 atacactgtg aaggatgcaa gcagaaggc agaaaactgc tgaagaagac cgagggagt 240
 tactctgcta atatagatgc ggagcaaggc aaggtaacag tgctcgggtc cgtagatccg 300

| | | | | | | |
|-------------|-------------|------------|-------------|------------|-------------|------|
| tacacgctca | tcacgaagct | tgagaaatca | gggaaacatg | cggagctctg | ggggggatca | 360 |
| ggaggacaca | agaacggcac | ccaaaaccct | cctccttcgc | tcccacaaca | accaccgcag | 420 |
| tcgggtttcgc | tccgtcgacg | aatctgcacg | gaggaggaga | cggcccatgg | cgatgcaaac | 480 |
| tgggataggg | ctttccaaga | tcctggtcct | cgccggagct | ggatacactg | gcacgatact | 540 |
| gtttcagaac | gggaagtgtg | ccgacttggt | gggcgagctc | cagggtttgg | tgaagggatt | 600 |
| agaaaaatct | ggtagccaat | cagatggaga | taaagactat | tctgatgctg | ttgccgcaca | 660 |
| ggtgcgtcga | ttggcaatgg | aggtccgaca | gctagcctct | gcacgtcaaa | taactgtcct | 720 |
| gaatggaaat | tctagccaaa | tgggcaactt | aactaatatg | gttggtccag | cagctacact | 780 |
| ggggggcactg | ggatatggct | acatgtgggt | gaaggggtctt | tcattctcag | atctcatgta | 840 |
| tgtaaccaag | cgcggtatgg | ccaattgtgt | ggcaaacttg | acccaacatc | tagagcatgt | 900 |
| ctccgaggct | ctcaactcag | taaagaaaca | tctaactcag | cgaattgaga | acttggatgg | 960 |
| caaaatggat | gaccagaggg | agctatcgaa | agaaataaag | aatgagggtt | cttctgtaaa | 1020 |
| agccaatctt | gatggctctg | gtgatgacct | ggattttttg | cagagaatgg | tttccggttt | 1080 |
| ggatgtacga | atgggatcac | tggagtacaa | gcaggattgg | gcgaatgagg | gtgtgaggta | 1140 |
| tctctgtggt | gtggctagcg | ggcagaaggt | ggaaatgccca | aaaatgctgc | aggagcaaat | 1200 |
| taagatttca | ggcacctctc | gaggattact | ctcatatcag | gatactccaa | gtcttaaggg | 1260 |
| tctgaaggaa | atcgctgatg | cattgacctt | gagtattgat | agatcagctt | cagatgctgt | 1320 |
| tgtgcaagat | ggagttgaaa | gattaaatgg | aaaaccaaag | ccattgccaa | gggctagtct | 1380 |
| aaccacatgt | tgatcgtaga | gtaatgtgaa | gttcccctcg | cactgtggta | ctaaaccatg | 1440 |
| gatgtacatg | tgcttggtac | accacctttc | gattcctcaa | ggttggactt | tggttagcatc | 1500 |
| agtcctcatt | gcagatgtaa | cggtagattt | ggtagtataa | tggaattcac | ttccaaagta | 1560 |
| tgagagattg | agagttatta | tggcgatgca | gattggtgct | gtcaaagtaa | taatccggtg | 1620 |
| aatctcatcc | cgaatatattg | ctgctctttt | gtattatttt | tcaagttatg | gtgtgaaaac | 1680 |
| ctctgaagcg | gtttgtttcc | | | | | 1700 |

<210> 54
 <211> 944
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| ctcttctctcc | ctcctctgca | atttgcacgg | agccctcccg | ctctcgtctc | tttaacatgc | 60 |
| ccaccacctc | ctggtgcaac | ttcacctcga | ggcctccgtg | agctactgtg | tgggcgtgct | 120 |
| tctcttctcg | taataattct | aatcctaaca | tgggtgtgta | tgcgagacaa | aaccagacca | 180 |
| gacctctcat | ggctcgtcta | gtccctttcc | tatccgtttc | gtgaccacc | tgggcatctc | 240 |
| caattactct | ctctctcttt | ctctctctct | ctagggtttt | cgaagacagc | tcctccccct | 300 |
| cgaagctcgc | tagggttttg | gatcgtcgtc | tcctctcggg | tcgtgtttgg | aatggaggaa | 360 |
| tatggccaga | tgaacgagaa | cagtagcact | gggtccagag | ggaacaacag | cttctgttac | 420 |
| gcatcgccgg | ttcttggggc | gagctcctcc | ggcaatagca | attacgggag | gggaaatagc | 480 |
| agcggtgggc | acttctattc | ccagtcgggc | gatcactgct | tccaatccga | agcgccgccg | 540 |
| caccgggtgg | tgaagactga | agcaaccacc | tctcaccacg | gccatgctca | gaagtttcat | 600 |
| cactattctc | tgggtgagaga | ccatcatgac | ccatcagctt | ctcaccacca | ccaccaccaa | 660 |
| caccaccagc | atcagcagct | acaaacagcg | agcgagagct | cgcgcgaggt | cgatgccatg | 720 |
| aaggccaaga | tcatcgctca | ccctcagtat | tccaacctct | tggaaagctta | catggactgc | 780 |
| caaaaggctc | gagcgccggc | tgaagtgggt | gcgaagctgt | cggtggcgcg | acaggagtct | 840 |
| gagtcgcggc | agcggtcgtc | ggtggcttcg | gcggacgggt | cgaaggaccc | ggagctggat | 900 |
| caattcatgg | aagcgtatta | cgacatgctg | gtgaagtacc | gggg | | 944 |

<210> 55
 <211> 915
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gtgaagaagg | tgaagatgaa | caggtcttgc | agcccaagat | caagcggaag | cgtagtctca | 60 |
| gggtgcgccc | tcgtcacact | atggaaaagg | cagaggaaaa | gtctagcaat | ggggcactac | 120 |
| ctgtacaatg | tggagattct | gctttcttgc | cactccaaat | ggaccacaag | tatcaacccc | 180 |

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| agtcaaggac | tgcgtctgag | accaatccct | ttggagaacc | tactgcttcc | aagcatggtc | 240 |
| atgggtggcc | ctccatgaaa | agcaagcgac | aaacatctct | aaggagaata | aatgatccat | 300 |
| caaagctaca | tcccttgcca | aaatctagca | gatcaaatca | catttcgtca | tcagatgctg | 360 |
| ctgcggaacg | ctcgagagaa | aactggaatg | gtagagttgc | aaatccttca | ggaaattcaa | 420 |
| gtggttggtgc | cgggtttatct | gaaatcattc | agagaaagtg | caagaatgta | gtgagcaagc | 480 |
| tccagaggag | gatagataag | gaagggcatc | acattgttcc | gctgctaact | gacctttgga | 540 |
| agaggatggg | aagtcctggt | catatgggtg | gtggttgaag | taaccttttg | gatttgcgga | 600 |
| aaattgatca | gcgcattgag | aaattggagt | acggcgatgt | gatggatctt | gtgcttgacg | 660 |
| tgcaactgat | gttaaaagg | gccatgcagt | tctatgggtt | ttctcatgag | gttagatctg | 720 |
| aagcgagaaa | agttcatgat | ctcttctttg | acatattgaa | gattgcattt | ccggacacag | 780 |
| attttgaaga | agtgaggaat | gctctctctt | tctcggggcc | tggtgctgca | tcccaatctg | 840 |
| ctccatcacc | aaaacaggca | tccgctggcc | aaagcaagag | acacagggca | ttaaatgagg | 900 |
| tcgatgctga | caaag | | | | | 915 |

<210> 56

<211> 498

<212> DNA

<213> Eucalyptus grandis

<400> 56

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| gtgggtgggga | aggctctgca | gaaatgcgcc | aaaatttcta | cggatttgaa | gaaggcgctc | 60 |
| tatggctctt | ccgtcgcttc | atgcgagcac | tactccgaag | tggaagcttc | ctctaactcg | 120 |
| attgtcactc | aggatgatgt | tgatgcagca | tgtgggtgctg | atgatacaga | ttttcagcct | 180 |
| gttctgaagc | cttatcagct | tggttggtgc | aactttcttc | ttttgttgca | tcggaagggc | 240 |
| gtaggaggag | aggggcaggg | ggtgctaaaa | tatgatacat | ctctagctaa | tggtgcatct | 300 |
| ttgtactcca | tgcaagccat | cctagcggat | gagatgggtc | ttgggaagac | cattcaggcc | 360 |
| ataacatact | taacattgct | gaaacacttg | aataatgac | cgggtccgca | cttggttgta | 420 |
| tgccccgctt | ctctcttgga | gaattgggaa | aggggaactca | aaaggtgggtg | tccttcattt | 480 |
| tcagtactcc | aatatcat | | | | | 498 |

<210> 57

<211> 474

<212> DNA

<213> Eucalyptus grandis

<400> 57

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ccaaaggtaa | gttcgatcaa | ctgtagatca | taggagtaat | ttaaaccatg | ttcatgggtg | 60 |
| acgaccacgc | tttatgtttg | agttgcaatt | gtacattcaa | cattctggcg | tgttgcaatt | 120 |
| gcagctatcc | caaagattcg | gacaaacaca | tgctcgcaaa | acaagcggga | ctaaccagga | 180 |
| gccaggtgtc | taactgggtc | atcaacgctc | gggttcgcct | ctggaagccc | atggtcgaag | 240 |
| aatgtactt | ggaagagacc | aagagccgag | agcaagctgg | gtctgagaac | ggcacgactc | 300 |
| gcagggccgc | caccaaattc | aacaaggacg | ctgctgggtt | gaagtccgca | tctcaagaag | 360 |
| acaatgcctt | tggaatgaac | agctccatca | aatccttcca | atcaagcccc | aacaaggccc | 420 |
| tcaatcaagc | cgccatttca | ccctccgaga | actccaactc | gacttctctc | actt | 474 |

<210> 58

<211> 489

<212> DNA

<213> Eucalyptus grandis

<400> 58

| | | | | | | |
|-------------|-------------|------------|-------------|------------|-------------|-----|
| ggagcaccag | cctcgggtca | aagttcccat | gcacttcaag | tggaggaaac | ccgagattca | 60 |
| cccctcgggt | ttgtgggtgaa | ggtggaggac | cgcttgagtt | ccgggagcgg | tgggagcgcc | 120 |
| gtgggtggatg | aggacgggcc | gcagctcgtg | gacagcggcc | attcatattt | tcattgcaat | 180 |
| gactaccggg | gaagcttggt | ggcgtcaat | gggttgagct | cagaggacga | tggagcgat | 240 |
| gatagccgag | gttactgctc | agagattttc | gccgtgctg | aagagccgca | tcaggagggga | 300 |
| ggcgtgccta | atgggggtggt | gggcgtggcc | ctagtttttag | gttttcgctt | tttggatgt | 360 |

| | | | | | | | | |
|------------|----|------------|------------|------------|------------|----|------------|-----|
| tctcgtaa | at | ggttcaagtc | aaatatgtgc | tcatgagact | atgcaatg | tt | tcacgaaggg | 420 |
| gaagaatctg | t | taa | acgtt | ta | ctggaacttt | gg | acatgaat | 480 |
| aaaaaaaa | | | | | aaaactgacg | tg | tttgg | 489 |

<210> 59
 <211> 456
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | | |
|------------|------------|------------|------------|------------|-------------|------------|-----|
| <400> 59 | | | | | | | |
| tctcgcttc | aggcagtg | aa | taggaagctg | actgcaatga | acaaaactttt | aatggaggag | 60 |
| aacgataggc | tgcaaaagca | agtgtcacag | ctgggtgatg | agaacagtta | tttccgccag | | 120 |
| cagacacaaa | acgcaaccct | cgccaccact | gacacgagtt | gtgaatcgg | ggtgaccagt | | 180 |
| ggtcagcacc | atttgactcc | tcagcatcca | ccaagggatg | ccagccctgc | aggacttttg | | 240 |
| tccattgcag | aggaaacttt | aacagagttt | ctttcgaagg | ccactggaac | tgctgtggag | | 300 |
| tgggtccaat | tgccctggg | gaagcctgg | ccggattcca | ttggaatcat | tgctatttct | | 360 |
| cacggatgca | ctgggtgtgg | agcacgtgca | tgcgcccttg | tgggtctaga | accttcaaga | | 420 |
| gttgctgaaa | tcctcaaaga | tcggccgtcg | tggtat | | | | 456 |

<210> 60
 <211> 455
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | | |
|------------|-------------|------------|------------|------------|------------|--|-----|
| <400> 60 | | | | | | | |
| tgacgatgtt | tgtggaggag | gaaagagacc | ggaaaggcct | ttcttttgca | catatgacgg | | 60 |
| ggaggaaaat | ggagacgatg | attatgatga | gtatttacac | caacctgaga | agaaaaggcg | | 120 |
| attgtctatc | gagcaagttc | tgtacttgga | gaagagcttt | gagactgata | acaagcttga | | 180 |
| accagataaa | aaagtctcag | ttgccaaa | actcgggttg | caacctcg | aagttgctat | | 240 |
| ttggttccaa | aatcgaagg | caagatggaa | aactaagcaa | atggagaagg | atttcgataa | | 300 |
| attgcaagct | agttttaact | gtttgaagtc | tgattatgaa | agtcttctca | atgagaagga | | 360 |
| gaagctcaaa | gctgagggtta | ttcatttgac | acaccagcta | gagcaaagga | gcaacggaat | | 420 |
| tctgaaccat | tcgacatata | tgaacaattg | cacac | | | | 455 |

<210> 61
 <211> 406
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | | |
|------------|------------|------------|-------------|------------|-------------|--|-----|
| <400> 61 | | | | | | | |
| cccaaatcaa | atgatatacg | gtgaaagatt | ttgagttttt | tttttttttc | atttgaattg | | 60 |
| tcaccgtact | ttttccgaaa | ccgggcacaa | tggagaataa | attcaggggt | acaatcattt | | 120 |
| gagttcatac | gacatgccta | attacatgaa | ctgcgaaaact | caaaagttca | atctttctcc | | 180 |
| ttcccctgca | tcagcgccta | attctgaaaa | aaattgagcg | tcagcaagtg | tttaggggatg | | 240 |
| gatttcttgt | tttgctagag | gggggattgg | ctatgggaat | tgaggaggcc | acgaagaggc | | 300 |
| aatcgatttt | cagctatcct | gaggatcttt | acaacgagga | atattatgat | gaccaggcgc | | 360 |
| cggaaaagaa | gcgccgcctc | actcctgagc | agggtgcatct | gttgg | | | 406 |

<210> 62
 <211> 530
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | | |
|------------|------------|------------|------------|------------|------------|--|-----|
| <400> 62 | | | | | | | |
| ctctctactt | tttatcttct | tcttcttctc | cgtcttcttc | ttcactgatc | actgcaaaaa | | 60 |
| aaaagaaaaa | gaaaaaaaaa | aagtactcct | ccgcctccgc | ctcctcctcc | tcctgctccg | | 120 |
| cagccgtacg | caggcgcgca | cgctcgacag | cgcattcctc | ctccccctcg | tcgcggcggc | | 180 |

| | | | | | | |
|-------------|------------|-------------|------------|-------------|------------|-----|
| aggcaggcag | gcaggcaggc | agacactgcg | cgtgccatga | gaagaaggcc | gtgatggaat | 240 |
| gggagaagca | ggaacagcac | cacccccacc | accaccacca | ccccccaccat | caccgcgagc | 300 |
| agcagcagca | gcaccaccag | cagcagcagc | agccgcagca | gcagcagcaa | gcgaaggagg | 360 |
| ctcagcagca | gcagcagcag | cagggggggag | agggcatggg | taacgggacg | gcggccggga | 420 |
| acggggggcgg | agtgtgttac | gtgaagggtga | tgacggacga | gcagctggag | accctccgga | 480 |
| agcagatcgc | cgtctacgcc | tccatctgcg | agcagctcgt | cgagatgcac | | 530 |

<210> 63
 <211> 452
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 63 | | | | | | |
| gcccggggcc | ccgtcctgct | ggccgagtag | accgagttca | gcggcaactt | caccagcgctc | 60 |
| gcctcccagt | gcctccagaa | gctccctgcc | accagcaaca | agttcaccta | caactgcgac | 120 |
| ggccacacct | tcaactacct | cgtcgacgat | ggcctcactt | actgtgtggt | tgagtttgag | 180 |
| tctgttgggc | gccagattcc | aatggctttc | cttgagcgga | tcaaggagga | ctttactcac | 240 |
| agatacgacg | caggaaaagc | tgcaacagca | tctgctaata | gcttgaacag | ggagtttggg | 300 |
| cctaaactca | aggagcacat | gcaatattgt | gttgatcatc | cggaagagat | cagcaaaactt | 360 |
| gctaagggtga | aagctcaggt | atcagaagtg | aaggaggtaa | tgatggaaaa | tattgagaag | 420 |
| gttcttgatc | gtggtgaaaa | aatcgaactt | ct | | | 452 |

<210> 64
 <211> 354
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 64 | | | | | | |
| gccaagtagc | accccggttg | ccccacatta | tctgtgatat | gtaaactgtg | tgggcctctg | 60 |
| ttagctacaa | tatgattggc | atcatttaag | cttttgcgta | atcatcagtg | ttctcaattt | 120 |
| gcaaaatacc | attaacggat | cttgacagat | ggaaagcatt | ttagagaggt | acgagagata | 180 |
| cacttatgcy | gagcgacagc | aagtggccac | tgattcccct | caagtgcagg | gaagttggtc | 240 |
| gcttgaatat | cccaagctcg | tggctaggat | cgaagtcttg | cagaggaaca | taagaaactt | 300 |
| gagcggagaa | gagcttgatc | ccttgagtct | gagagagctg | cagtatttgg | agca | 354 |

<210> 65
 <211> 1239
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| <400> 65 | | | | | | |
| ctctctctct | ccttccccct | ctgactttgc | tcaagcttct | ttcctttctt | taggataagt | 60 |
| gctacatgag | cttgtcgctt | tgtgtttgat | ctcaatttcg | cacatgaagg | tgatgaagct | 120 |
| cactaatagc | ccatcttctt | ttctctctct | ctctctctct | gcgcgatttg | ttttgttcag | 180 |
| cgaaagaaga | agagataaat | attgaagtga | agtgaacagc | tgcgatggcg | acttactacc | 240 |
| accagagctc | atctgaccca | gatggagccc | tacaaaccct | cgtcctcatg | aaccccgcca | 300 |
| gctacgtcca | ctactccgat | gccccgcctc | cgcaccagca | accctcggcg | atcttctcta | 360 |
| actcctccac | cgccggggcg | cccgcacccc | agaccagca | atttgtaggc | atccccctac | 420 |
| ccggcagcgc | cgccgactcg | cagccctcgt | ccatgcacgt | caaccacgat | ctctcctcca | 480 |
| tgcatggctt | catgcctcgc | gtccagtata | acctctggag | ctccctcgac | ccgtccacgg | 540 |
| cggcgcgtga | ggcctcccg | acccaccagc | agcaggggct | ctcccttagc | ctctccccgc | 600 |
| agcagcccc | accgacccca | gctgggtacc | gttcctttgt | ccggggccgag | cgagtgggcg | 660 |
| atggagcagc | gggtttctcag | caccctccag | caatttcagg | cggtgaggac | gtgcggatct | 720 |
| cgggcgggtc | cccatcgctg | gcctcaggcg | taaccaatgg | ggcggcagtt | gggtcgggca | 780 |
| tgaggggggt | gttgctgagc | tccaagtact | tgaaggccgc | acaggagctt | ctcgaagagg | 840 |
| ttgttaaatgt | tgggaacacc | ggaatcaaag | ctgagatgct | gaagaaggcc | agcggccaaa | 900 |
| gtaagccggg | tggagaatca | gcggcactga | aggaggaagg | aggtggcgac | ggcagtggtg | 960 |

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|------|
| agcgcggcgc | agaactgtct | atggctgaga | ggcaggaaat | tcagatgaag | aaggctaagc | 1020 |
| tcataaacat | gcttgatgag | gttgaacaga | gatacagaca | gtaccacaac | cagatgcaga | 1080 |
| tcgtgatatc | ctcgttttgag | caagctgcgg | ggattggctc | tgcaaggacg | tacacggccc | 1140 |
| tcgcgctgca | gaccatctca | aagcagttcc | ggtgcctcaa | ggacgcgata | gcaggccaga | 1200 |
| ttcggggcgc | taataagagc | ttgggcgag | aggatggcc | | | 1239 |

<210> 66
 <211> 371
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| <400> 66 | | | | | | |
| gttgagcagg | tacagtttct | tgaaaagagt | tttgaagtag | agaacaagct | cgagccagat | 60 |
| cgcaaaatcc | agttggcaaa | agacctcgga | ttgcagccac | gacaggtagc | gatatggttt | 120 |
| cagaatcgtc | gtgcacgggtg | gaagacgaag | cagctagaga | aggattatga | aactttgcaa | 180 |
| gcttctttta | acacctgaa | gtcagactac | gacactctca | tcaaggagcg | gaatgatctg | 240 |
| aaagccgagg | ttcttaacct | cacggacaag | ctgcttcaca | agggaaatga | gaaggagagt | 300 |
| tccgagtcgt | ccagcaaatc | atctcaagg | ctattccaga | acccattgc | tgattctgtt | 360 |
| tctgaggacg | a | | | | | 371 |

<210> 67
 <211> 387
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 67 | | | | | | |
| ggccatcatt | agttccgac | aatggagcg | aaggatgtta | gaagcagctc | ggaagggcaa | 60 |
| tgtccatgag | ctggaagact | tgatcagcag | caatgagctc | atcctcgagg | agatggatct | 120 |
| tgaaggagcc | ggtcacacgc | cgctgcatgt | cgctgtgtg | gctggccatt | tggatttcgt | 180 |
| tcgagagctc | ctgaagcgta | cgccaaagct | tgcgaaaaag | gtgaacacgg | atggtttcag | 240 |
| cccgtgcac | atcgcggtg | ctcgagggtga | tgtcgagatc | gcgagggagc | tcttgacaat | 300 |
| gggtccacac | ctgtgctccg | tgaagggacg | ggagagaaga | atccctttgc | attatgccgc | 360 |
| tatgaacggg | aaggtcgatg | tcatgaa | | | | 387 |

<210> 68
 <211> 479
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 68 | | | | | | |
| tccggctgtc | gaaggaccag | tccgcgctcc | tcgaggagag | cttcaaagag | cacaacaccc | 60 |
| tcaatcctaa | gcaaaagctg | gcactggcga | agcagctggg | gctgcggccc | agacaagtgg | 120 |
| aggctctggt | ccagaacagg | cgagccagga | cgaagctgaa | gcagacggag | gtggattgctg | 180 |
| agtacctgaa | gcggtgctgc | gagagcctga | cggaggagaa | ccggcggctg | cagaaggagg | 240 |
| tgcaggagct | gcgggcgctc | aagctctccc | cgagttcta | catgcacctc | tccccctcca | 300 |
| ccaccctcac | catgtgcccc | tctgcgagc | gggtcgccgc | cccgtctccc | ccctccgccc | 360 |
| tcggccgccc | cctcgccgcc | gtcccggccc | acccccgccc | cgtgcccctc | atcaaccat | 420 |
| gggcccctgc | ggccgcttta | gaaatagtgg | atcccccg | gctgcaggaa | ttcgatatac | 479 |

<210> 69
 <211> 684
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 69 | | | | | | |
| cagaaagtga | ctcgccctag | tgtaggagta | gggagaggct | tggatgcaca | ttccatttcg | 60 |
| cctccttgaa | gccctccaac | ggcgagata | tttccttgct | tttttaggca | aaatgttgaa | 120 |

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|-----|
| aaactggtga | taataaaaag | aagccctgtt | tagctataaa | gggaagcccc | atcctttctc | 180 |
| ctccctttct | ctttcttacc | tgtccccccc | tccctctccc | tggctctcgc | tctctctctc | 240 |
| tctctcagtt | ctttctcgga | cgggtgtctg | tgcgtggcct | ttgatcggtc | atcacctgag | 300 |
| gccgcgtctg | caagcaagt | aagaaggagg | acaaggaata | tggcgagaga | gaagatcaag | 360 |
| atcaagaaga | tagacaatgt | gacggcgagg | caggtgacgt | tttctaagag | gagacgaggg | 420 |
| cttttcaaga | aagccggaga | gctgtcggtc | ctgtgcgatg | ccgaggtcgc | tgtcgtcatt | 480 |
| ttctcggcta | ccggcaagct | ctttgagtac | tccagctcca | gcatgaagga | cactcttgag | 540 |
| aggtacaccc | tccaccacaa | taatcttgag | aatatggacc | aaccttctct | cgagctgcag | 600 |
| ctggagcata | gcaataacat | gaggtttaagc | aaggaaagtgg | cagaaaaagag | ccatcgactc | 660 |
| aggcagttga | ggggtgagga | tctt | | | | 684 |

<210> 70
 <211> 356
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| <400> 70 | | | | | | |
| gcaggttctg | gtgtggttcc | agaatcgccg | ggctcgggtg | aagacaaaagc | aactggaaaag | 60 |
| ggattatgat | tacctcaa | cttcgtacga | ttcccttctt | tccgactatg | attccatctt | 120 |
| gaaggaaaac | gagaagctca | aactggaggt | ctattccttg | acagaaaaac | ttcagggcaa | 180 |
| ggaagtcgat | ggagcaccaa | tgacaggccc | ctcggagcca | gctccgctgg | aggaggctga | 240 |
| tgtccaggcc | gtccaattca | gtgcgaaggt | ggaggatagg | ctgagcacaa | ggagcggggg | 300 |
| aagcgcagtg | atcgacgagg | aaggtccaca | gcttgtggac | agtggcaact | cgtacc | 356 |

<210> 71
 <211> 725
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| <400> 71 | | | | | | |
| cccaacgcct | ccccaaacgc | aacgcaaaga | ttccattttt | ccctctcgcc | gtcgcgtgaa | 60 |
| actccggccg | ccggcggcct | cagatcaccc | cgcttcagca | gcagcagcag | caagcgtga | 120 |
| gcaaagagga | gaagggtggct | gctttcatgg | aggcccactg | agtcttcagt | ccggagcttc | 180 |
| cgaccaaga | aaggggagagc | agacgaagca | gagggggaga | ggcaaagaga | gagatttgag | 240 |
| gagctgggaa | gtgttttggg | aaggagtggc | atgatggggg | tttgcatatg | tccgctggag | 300 |
| acgccggcga | ggctgctgtg | gacgaccagc | ttcttcgctc | acaagctcat | gctcttctaa | 360 |
| ctcgcggcct | ccctgtgtag | acatagtgtg | aactcgtttg | tacgtatatc | tacgtgttaa | 420 |
| gtgctttttt | tccagtgcct | cgccggagtt | tcggtcaggc | tgggatacag | gttgccggag | 480 |
| atccacctcg | ggctgagaag | ggtatggagg | cagggcgctt | tctgtttgat | ccccccgcgc | 540 |
| ttcaggggaa | catcctcttc | cttgataaaag | gatcaagatc | catgatgggc | atggaggaat | 600 |
| ccccgaagag | gcgccgggtt | ttctgctcgc | cggacgaact | tttcgatgag | gaatattacg | 660 |
| atgagcagat | gccagaaaaag | aaacgtcgcc | tcactcctga | gcaggtgctt | ctgctggaga | 720 |
| agagc | | | | | | 725 |

<210> 72
 <211> 523
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 72 | | | | | | |
| ctgaagaccc | aaatcctccc | tcacttctag | gtgcatagtt | tgatccctct | cattctcatg | 60 |
| gatgaaatgt | acgggctctg | cggcgccggc | ggcgaggagg | gaggaggagg | aggagaggag | 120 |
| tactccgaga | gggcgctgat | gtcgcgggaa | aacctgggtg | tgccgtcaga | gtaccaggcc | 180 |
| tggctgtgct | cggccgggtt | tagggataat | cgaatcccca | tgtacggggt | cgggtcggag | 240 |
| gagttcgtgt | cgtcggcgct | gggcatgtcc | gagaccgcct | cggtcacacc | cgaccaagag | 300 |
| gatgcggcgg | agacagcgat | caagtccaag | attaagtccc | acccttcgta | ccctcgtttg | 360 |
| ctccacgcct | acatcgattg | ccagaagggtg | ggagcaccac | cggaaagtgg | ggggctgttg | 420 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gacgaaatcc | ggccagagaa | cggcgtgtgc | aagcgagacg | ccgccgtttc | tacatgcctt | 480 |
| ggtgccgatc | ctgagctcga | cgagtttatg | gagacgtaca | cag | | 523 |

<210> 73
 <211> 646
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 73 | | | | | | |
| ctaacctggc | cgtctctttc | ttcctgccat | tggctcttcc | ttttgtattt | tcctctgctc | 60 |
| cctgctccct | ctctctctct | aaaagcctgt | gggcttatag | ggtccgttga | atggctctctc | 120 |
| tctctctctc | tctatcaatc | gctctctaca | gagagcagag | ggaaattctc | gagattggcg | 180 |
| tctggggata | aaagaccagc | acagggacca | tcttcttcat | tccctctctc | tcttctctga | 240 |
| ctggaacaag | aaaagctctg | tgtgtagcgg | aggaagtgcg | tccagagaga | gctctcttgc | 300 |
| tgcgggacat | tattctcatg | aaggagatag | gaggctctct | tcggcagaga | gagcccgctt | 360 |
| ccggagagat | cctgcccagc | tgacccccgc | gcagacattg | gcattcctcc | ttcttcttcc | 420 |
| ttccccctct | cgagaacgtt | cggagaaaaa | agcgacagag | cggaaccggg | gactgcggat | 480 |
| ggcgctggcg | atgcacaggg | agtgtctcag | caagcagatg | gacgcgagca | agtacgtgcg | 540 |
| gtacaccccc | gagcaggtgg | aggcgctgga | gcgggtctac | aacgagtgcc | ccaagcccag | 600 |
| ctcgctgagg | cggcagcagc | tgatccgaga | gtgccccatc | ctctgc | | 646 |

<210> 74
 <211> 471
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|------------|------------|-------------|-----|
| <400> 74 | | | | | | |
| ctcctctctc | ataagtcata | attcacaggc | gcggcacaag | gcacgaaaag | ataaaaaaaaa | 60 |
| aaacgatggc | cgggtgaggag | ccttattctg | ccgacacgaa | ctcggacact | ttcgctgatg | 120 |
| aagaaacgct | gattccgagt | tcttccgagg | ctcttgagtc | cgcctgggtt | cctacttcct | 180 |
| cgaccgctca | tcattggttca | aaatcagtgg | tcaattttga | ggacgtttgt | ggaggaggag | 240 |
| acaccaatac | tgcgccgagg | ccatacctcc | gacagattga | tctgaaggaa | gaagccgtcg | 300 |
| aagaggacta | cggcgacggg | aacttttcagc | ctcctggtaa | gaagcgggcg | ctatcgggcg | 360 |
| accaagtcca | tttctctcag | aggcactttg | aggtcgagaa | caagctcgag | cccagaggga | 420 |
| agatccagct | cgccaaggac | ctcggcctgc | agccgaggga | ggtcgcgatc | t | 471 |

<210> 75
 <211> 766
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 75 | | | | | | |
| tctgcagcat | cattaaaagc | tagtccattt | ggctatcctg | gtatgaggcc | cacaagattc | 60 |
| accgggagtc | aaatcatcat | gccccttggg | cacacaattg | agcacgaaga | gatgcttgaa | 120 |
| gttatccgtc | ttgaaggcca | ttctcttgct | caagaagatg | cttttgatc | aagagatatt | 180 |
| catcttttgc | agatatgcag | cgggatagac | gagaatgcag | ttggagtctg | ttccgaactt | 240 |
| atttttgcgc | caattgatga | aatgtttcct | gatgatgctc | cactgctacc | ctctggtttc | 300 |
| cgtatcatac | cactggattc | aaaatcatct | gatgtacagg | attctctaac | gacaaatcgg | 360 |
| acccttgatc | tgacatcgag | tcttgagggtg | gggcctgcat | caacaaattg | cgttgagat | 420 |
| gttgcgccaa | gccatggtgc | acgatctgtt | ctgactatcg | ccttccagtt | cccatttgat | 480 |
| gccaacacac | aggataatgt | ggcagtcatg | gccaggcaat | atgtccgtag | cgttatttgc | 540 |
| tctgtgcagc | gggttgcgat | ggtcatatct | ccatcaggat | tgggcccttc | cattaacccc | 600 |
| aagctttcac | agggatctcc | agaagctcta | acacttgcta | actggatctg | ccagagctac | 660 |
| aggcatgttc | tgataatttg | attgaattgg | tcttcttttg | gtgcatctca | ctctgtgttt | 720 |
| gttgtgatct | gccactcatc | aagctgatgc | tcgactatct | ctctcc | | 766 |

<210> 76

<211> 443
 <212> DNA
 <213> Eucalyptus grandis

<400> 76
 gttcttctcc gattcttgac gaccgcaaca acaatatgca acaacaacgc ggggtggttca 60
 ggttcaggct caggctcagg ttgtttcttc atggacaacg atgtcaaggc caagatcatg 120
 gctcatcctc actaccaccg ccttctctca gcttatgtca attgtcagaa ggtgggagct 180
 ccgcctggcg tgggtggcaaa gctagaggaa gcgtgtgcat cggctgcgat aatggccggg 240
 aacagcggca tgagcaacac aggttgcat gggtgaagacc cagctcttga ccagttcatg 300
 gaggcctact gtgagatgct gactaagtac gagcaagaac tctccaaacc cttcaaagag 360
 gccatgctct tcttcagag gatcgagtgc caattcaaag cccttactct tgggtgttct 420
 tctgattctg tggctttgag tga 443

<210> 77
 <211> 529
 <212> DNA
 <213> Eucalyptus grandis

<400> 77
 tggaagcagt aaaggagtgg gaatacccg gcttcgtttt ttggaccagc agctcaggca 60
 gcaacgagcc ctacagcagc ttgggatgat gcaacagcat gcatggaggc cgcaaagagg 120
 acttcttgag agttctgttt ctattcttcg ggcctggcta tttgagcatt ttcttcatcc 180
 ttacccaaag gattctgaca aaatcctgct tgcaaggcag acaggcttga caagaagtca 240
 ggtctcgaat tggttcatca atgcaagagt gcgtctctgg aaacctatgg tcgaagaaat 300
 gtacaaaagaa gagattgggg atgcggaat ggactccaac tcctctccg acacagccaa 360
 gccaaaaaca ggagatatca agtctctcat ggaggaccgg gtggaagaag tgcaacagag 420
 ttcaacagct acacagagat gcagctcagg ccagctcatg gactcatcat tcgaccggac 480
 tccagatgtc gaaatggcag gccactctgt gggattcaac tacctgaac 529

<210> 78
 <211> 941
 <212> DNA
 <213> Eucalyptus grandis

<400> 78
 acttaatgca atctgcaagg ttaagggtta tgctgaccca ttacaatatc agagttgatg 60
 tctgaggtgc aagtcactca gatgaaatct gatggtacgc tagaggagag tgggtgaggca 120
 cggcgactta gaaattcttt ggaggaaatg gcaaacgaag gcaagagccc tagcatattg 180
 aaagaatgtg gtcttcagaa aaattctttc gtctcaattc cacaaaaaat gacagaaaat 240
 cgggtggctct ggtcggagggt caaatatctc tctaattgcc ttcttttggc actagatgca 300
 agccttgagc attctctttt gggatctctg atgaatatgg atagatatgc tgctgcagag 360
 agttatcaca aacttgctat ggcttttgcc cctgtcccgg atcttcacat tatgtggttg 420
 ttgcacttgt gtgatgcaca ccaggagatg cagtcttggg ctgaagctgc acaatgtgct 480
 gtggctgttg ctggtgttgt aatgcaggcc ctagttagta gaaatgatgg tgtctggagt 540
 aaagaccatg tgacggcact acgtaaaatt tgcccaatgg tcagcagtga gatcagctgt 600
 gaggcactct ctgcagaggt tgaggggtat ggtgcttcaa aactcacagt agactctgct 660
 gtgaaatatc tgcagcttgc aaacaagctt ttttctcaag ctgagcttta tcatttctgc 720
 gcaagcattc tggaaactcg gattccagtt taaaaagca ggagagcata tggacagctg 780
 gcaaaatgtc acaccttgct caccaatatc tatgagtcaa tccttgagca ggaatccagc 840
 ccaattcctt ttacagatgc tacatattac aggggtgggat tctacggtga aaaatttggg 900
 aagctggata ggaaggaata cgtttatcgg gagccccgtg a 941

<210> 79
 <211> 436
 <212> DNA
 <213> Eucalyptus grandis

<400> 79
 cccacaccaa gactcaccac catcactcaa tcgcaatctc caaccccacc aagtctatgt 60
 cccaagacta tcaccacccc agcatcttcg ccttctcaaa taacggcttc gagcgacccg 120
 acgttgccgc ggctcccgct gcctcagacc aagaacagca gcaccatgta gccagcaga 180
 tctgccgtga caagcttcga gtgcaaggct ttgaccaacc tccaccgcca caactgggtg 240
 gcatggagga ggaaccaggc gggctgcccg cgtacgagac cgctgggatg ctatctgaga 300
 tgttcaattt ccctcccggc ggtgcagccg ctgccgaatt gctggagcag ccgatggcgt 360
 cgggttatcg ggctgcccgg ccatcactgc caaccgtgag tggtagcggt caaaaaaccc 420
 aggtgtgtat aggcga 436

<210> 80
 <211> 377
 <212> DNA
 <213> Eucalyptus grandis

<400> 80
 atcgttgatc acatggattt agagccatgg agcgtgcctg aagtattgcg cccactttac 60
 gagtcgtcaa ctttgctcgc acaaaggaca acgatggcgg ctttacgcaa tctgaggcag 120
 atctctcaag aagtttccca gccaaatgtc actgggtggg gaagaagacc tgcggcactg 180
 cgtgcttttag gtcagagatt gagcaagggt tttaacgaag ctgtcaatgg atttatggac 240
 gatggttggg ctatgttgga aagtgatggc gtcgatgatg ttactcttct cattaactca 300
 tcgccagcca agatggcagg cgtgaacatt tcttacgcaa gtgggttttcc ttcaatgact 360
 agtgccgtct tgtgtgc 377

<210> 81
 <211> 478
 <212> DNA
 <213> Eucalyptus grandis

<400> 81
 aggtttgtcg atgccactgg tgttcttctg agtctagatt gatagagaag gaccggaagt 60
 caccaagaaa aggttcttat ctgggtttctt gatagccttt tttgggtttg tattgagaat 120
 tcacttcggt cagagaggag agagcctgtg agagtagtga tcggagatgg cgacggcctt 180
 tgcagggacg cagcagaagt gcaaggcctg tgacaagacc gtgtatctag tagatcagct 240
 cactgctgac aacaaggctt tccacaaggc ctgcttcaga tgccaccatt gcaagggcac 300
 tctgaagttg agtaactatt gctcctttga ggggtgttcta tattgcaagc cacatttcaa 360
 tcagctcttt aagatgactg ggagcttgga taaaagtttt gaaggcactc caaaaactgt 420
 caatagatct tctgagcagg gccaaagtaa tgccaaagtc tcgagtatgt ttgccgga 478

<210> 82
 <211> 493
 <212> DNA
 <213> Eucalyptus grandis

<400> 82
 cagatgatga tgaggatgac gatttggtttc aagatcgttt tagcattgca tacaaccttg 60
 accgagagtt tgggccaaga cttaaggagc atatgcagta ctgcatgagc catccagagg 120
 agatgagtaa gctatccaaa ttgaaggctc agatatcaga ggtcaaaggg attatgggtg 180
 ataattattga aaagggtgtg gaccgtgggg agagaattga acttctgggt gacaaaacag 240
 agaacctaca attccaggcc gacatttttc aaaggcaagg aaggcaactg cgtaggaaga 300
 tgtggtttca gaatctccaa atgaagggtg tgggtggctgg agcagttgtc atagtaatat 360
 tcttgctgtg gcttatagca aagtggggaa gtaataaaaa cttgttctca ggatgtaaaa 420
 agaaaaggta caatatgatt ttgtatctgg atatgtttgt tggtagtggt agctagccta 480
 ccacttagga ttt 493

<210> 83

<211> 764
 <212> DNA
 <213> Eucalyptus grandis

<400> 83

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgcattctc | aacaaatata | gtcgattgcc | ttatcagcag | gaaacattag | tgaaattatg | 60 |
| caatccaaac | ttcaatgcgc | tgcttccacc | agtttctctt | ccttcttatc | ctttttgccc | 120 |
| ccagtgaaga | atgtgtaccc | tccatagata | agcacacccc | aaccagacaa | agacacaatt | 180 |
| acaaaatgct | cttccttcca | tttagatgga | ctcaaagggt | catcccaaac | attaactctt | 240 |
| ggtggtccat | ggtgatccgc | cgcgccggcg | aggccgcgcc | gctggccgaa | ggcggcggct | 300 |
| tgggccgaca | gccccggaga | ggaggcgcgc | gagagagcgg | cggcccgccg | agctgcgac | 360 |
| gcggctaacg | cagtagccat | ggctggatcg | agagagagag | gagagagtgt | gctcttgata | 420 |
| gccttttttg | gttttgtatt | gagaattcac | ttcgttcaga | gaggagagag | cctgtgagag | 480 |
| tagtgatcgg | agatggcgac | ggcctttgca | gggacgcagc | agaagtgcaa | ggcctgtgac | 540 |
| aagaccgtgt | atctagtaga | tcagctcact | gctgacaaca | aggtcttcca | caaggcctgc | 600 |
| ttcagatgcc | accattgcaa | gggcactctg | aagttgagta | actattgctc | cttcgagggg | 660 |
| gttctatatt | gcaagccaca | tttcaatcag | ctctttaaga | tgactgggag | cttggataaa | 720 |
| agttttgaag | gcactccaaa | aactgtcaat | agatcttctg | agca | | 764 |

<210> 84
 <211> 490
 <212> DNA
 <213> Eucalyptus grandis

<400> 84

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ggttttatgcc | cctatcgatt | caacagcgat | gaccatcgcg | ttgagcggcg | aggacacttc | 60 |
| cacagtgcaa | attcttccat | ctggcttcac | gatctccagc | gatggccgga | ttggcacaag | 120 |
| ctccagcaag | ccagcaggta | cacttctcac | tgtggcgctc | cagatattgg | tttccagcca | 180 |
| ctcaggtcca | gagcagctca | gcgtggaatc | cgtggcgacc | gtgaacactc | tcattagtgc | 240 |
| gaccgttcag | aaaattaagg | ctgctctaaa | ttggtctgcc | gcggaatgat | tttttttttt | 300 |
| ttttaatatt | tgactaggcg | gaatgatcct | tctatttggt | ttgatgggtt | gtaccgaaag | 360 |
| atgagatgat | ataatttcac | agcgagatga | tttaatttca | catcgctcac | aacacgtggg | 420 |
| gagtacaacc | agttcctgtc | cataatgatc | taagttgggt | tttatattgg | aatgactttt | 480 |
| tgcggaactg | | | | | | 490 |

<210> 85
 <211> 427
 <212> DNA
 <213> Eucalyptus grandis

<400> 85

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| atcaaattgga | gagagcagct | cgaaagggca | atatccatga | gctgaatgac | ttgatcagca | 60 |
| gcaatgagca | aatccttgag | gagatggctc | ttgaaggagc | cggccacacg | ccgctgcaca | 120 |
| tcgcttgat | gggcggccat | ttggatttca | tccgagagct | cctgaagcat | atgccgaagc | 180 |
| ttgcggaaaa | agtgaaccgc | tgtggtttca | gccactaca | catcgccgca | gctcgtgggt | 240 |
| atgttgagat | cgcgaaggag | ctcttgaaag | tgaatacaga | cctgtgctcc | gtggagggac | 300 |
| gggagagaag | aatccctttg | catgatgctg | tcatccacgg | ggaggctcat | gttatggaga | 360 |
| tactactatc | tacttcacct | gagtcgtgtg | aaaagaaaac | cggccggaag | gagaccgtgc | 420 |
| ttcacct | | | | | | 427 |

<210> 86
 <211> 365
 <212> DNA
 <213> Eucalyptus grandis

<400> 86

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| gccaagtgac | atcttctctt | tgcaactttg | caatggagtg | gatgaaaatg | ctgttggcac | 60 |
|------------|------------|------------|------------|------------|------------|----|

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| ttgtgctgaa | ctacttttgc | ctccaattga | cgcatccttt | tctgatgatg | cacccattat | 120 |
| tccttcggga | ttccgcatca | ttcctcttga | tccaggatcg | gatgccttca | gccccaaaccg | 180 |
| gacacttgat | cttgccctcag | ctcttgatgt | tgggtcccaca | ggcaacaaaag | cggtcgggtga | 240 |
| taattctggg | catagtggaa | acaccaaatac | tgtgatgact | atagccttcc | aattcgcatt | 300 |
| tgaattacat | cttcaagaga | atgtggcgctc | catggctcgt | caatacctca | gaagtattat | 360 |
| agcat | | | | | | 365 |

<210> 87
 <211> 180
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 87 | | | | | | |
| tttctctctt | ttctctcaag | ctctctcctt | catcttcaag | aacacaagac | caaatacaatc | 60 |
| ttccccatct | cctcaaatgg | gcatagatga | tctgtgcaac | acaggccttg | ttctgagtct | 120 |
| tggcctcgag | acgccttca | agatcgaagc | ccagaggcaa | gccaaacagc | gccttaactt | 180 |

<210> 88
 <211> 468
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 88 | | | | | | |
| aaatcaatgc | ccccgaaagc | gacccttcac | ttacaccgcg | catcaataga | cacccttctt | 60 |
| cggagaccca | ggccaccacc | ctcctccagg | ccaccaccgc | catgatctcc | tccgctgtcc | 120 |
| agggtggcgg | cccgccgcac | atagatgacc | cctgccgcgc | cagcatcgga | ggcagcacgg | 180 |
| gcttaggcgg | cgccacggac | atcggttccg | cgctgatccg | gtttgggaca | gccgcggcag | 240 |
| caacgggcga | cgtgtccctc | accctggggc | tgcgccacgc | cgggaatgtg | ccagagaaga | 300 |
| gctctttctc | ggttaccgac | ttgggcggct | gttaattagt | aattaaattt | ttgcctgtca | 360 |
| tctagctacc | tttgggaaaa | aaaacaattt | tagaaaaaga | aaacctttct | ttttcctcca | 420 |
| ttatcattaa | tctagcttaa | aaacaagata | caccaaccct | caggaaac | | 468 |

<210> 89
 <211> 441
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| <400> 89 | | | | | | |
| cttcaatgaa | ggaaatggta | ccccaaagcaa | acagaaaatc | aaagagatta | ctaccgaact | 60 |
| gagtcaacat | ggacaaaattt | cagaaacgaa | tgtctataac | tggttccaga | accggcgtgc | 120 |
| acgatccaaa | aggaaaaatgc | agaatgcaac | cggcaacaat | actgaatctg | aagctgaagc | 180 |
| agaagttgag | tccccaaaagg | agatgaagac | aaaaccggag | atctttcaat | ctcagcagaa | 240 |
| tcctgtatca | aggaacgaag | atztatgctt | ccaaagccct | gagattagct | cagatcttca | 300 |
| ttttgctgat | tcacagacca | aagtggagag | catggtttat | ccagatggca | gtttgagatc | 360 |
| caggaatagg | aacctaggcc | agctatcttt | ctatgatgcc | atgatgtcaa | attcaggcgg | 420 |
| tcttgacaga | aatgagcatc | t | | | | 441 |

<210> 90
 <211> 744
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 90 | | | | | | |
| ctcctattga | tgaatctttc | gcagatgatg | ctcctttggt | gccatctggc | tttcgtgtca | 60 |
| tacaattgga | tcctaaaaca | gatgggcctg | cccctactcg | gacattggac | ctggcctcta | 120 |
| cgctggagg | gggatctggg | ggtgctcgtc | ctacttggtg | agctgatgct | agcacctaca | 180 |
| acctgcgatc | tgctctcacc | atcgcatctc | aattcgtggt | tgagaaccat | ttacgggaca | 240 |

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| ctgttgccat | catggctcgt | caatatgtgc | gtagtggtgt | gggatctgtc | cagaggggtg | 300 |
| ccatggcaat | tgcaccttcc | aggctaggtg | gccatctggg | gccaaaatct | ctctctgggt | 360 |
| ctcctgaagc | tcttacgctg | gcacgatgga | tctgccgtag | ctacagaatt | tgtgctggag | 420 |
| ctgaactgtt | gagaggggac | tcccaagctg | gtgatgctgt | tttgaaggaa | ttttggcacc | 480 |
| attctgatgc | aattatgtgc | tgtctctgtga | atacaaatgt | ggcctctcct | gtcttcacct | 540 |
| tcgccaacca | agctggactt | gacatgcttg | aaactactct | ggtggccctc | caagatatta | 600 |
| tgctggaaaa | ggttcttgat | gaagggtggca | ggaaagttct | ttcttcggag | ttcccgaaga | 660 |
| tcatgcagca | gggtatcgcc | tatctgccag | ccggagtatg | catttctagc | atgggaaggg | 720 |
| cagtggctta | tgagcaagcc | gttg | | | | 744 |

<210> 91
 <211> 509
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 91 | | | | | | |
| gtccggctca | ctaaggaaca | gtctgctctt | ctggaagaga | gcttcaaaca | gcatagcact | 60 |
| ctcaacccta | agcaaaagca | agctctagcg | aggcagttga | atctacggcc | ccgccaagtc | 120 |
| gaagtgtggg | ttcaaaacag | gagagccagg | acgaagctca | agcagaccga | agtggactgt | 180 |
| gagttcctca | agaagtgtg | tgagacgctg | accgacgaga | accggcgatt | gcagaaggag | 240 |
| ctccaggagc | ttaaggccct | gaaactggcc | caaccctttt | acatgcacat | gcccgcggcg | 300 |
| accctcacca | tgtgccccct | gtgagagcgg | attggtgctg | gcccagagcg | cgacggcgca | 360 |
| gcgccgacga | agggcccttt | ttcgatgacg | acaaaatcac | acttatacag | tcatcacttt | 420 |
| accaatccat | ctgctgcttg | ctgattagaa | gttattaggg | ttttagagat | attacagaga | 480 |
| gagagagaga | gagagagaca | tatatagac | | | | 509 |

<210> 92
 <211> 363
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 92 | | | | | | |
| ccattagagt | ttcacaatga | cgtgagactt | accttcagca | atgcgatgac | ctataatcct | 60 |
| cccagcaatg | atgtccactt | gatggctgat | actctcaaca | aattttttga | cattaggtgg | 120 |
| aaaaccattg | aaaagaaact | tgttgctcgg | ggaccacaac | catcatcaac | aaaatcagct | 180 |
| ccacctgagg | aggtaaaagc | agccaagtca | acagctcttc | ctaaaaagag | gaaaatgtcg | 240 |
| agtcaacaag | aagttatgcc | tgcacctctt | cttcaggtaa | tgacagatga | ggagaagcat | 300 |
| aaactaggcc | aggaattgga | gtctttgctg | ggagagatgc | ccgaaaatat | tattgatttt | 360 |
| ttg | | | | | | 363 |

<210> 93
 <211> 110
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 93 | | | | | | |
| acatgcagct | ctatgcgcct | accactctgg | caccggcccc | tgacttctgg | ttgctgcgct | 60 |
| acacatctgt | aatggaggat | gggagtcttg | tggtatgtga | aagatcaatt | | 110 |

<210> 94
 <211> 440
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 94 | | | | | | |
| acagagagct | caagactcag | ctcttgcgga | agtacagcgg | atatcttggg | agcctcaage | 60 |
| aggagttcat | gaaaaagagg | aagaagggga | agctcccga | agaggccccg | caacaattgc | 120 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttgattggtg | gagtcgacac | tacaaatggc | cttaccatc | agaatcacag | aaactagctc | 180 |
| tagcagaatc | aactggacta | gatcagaagc | aaatcaacaa | ctgggttcac | aaccaaagga | 240 |
| agaggcactg | gaagccatcg | gaggacatgc | aattcgtggg | tatggatgcc | actcaccctc | 300 |
| attactacat | ggacaacatg | ctcggcaatc | cctttcccat | ggacatctct | ccgaccttgc | 360 |
| tttgaagtct | atgggtgata | ttgctaatat | tattcgacc | tagtgctatt | atgagctcta | 420 |
| aatgtgctct | ttccgagtgc | | | | | 440 |

<210> 95
 <211> 413
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 95 | | | | | | |
| cttggccatt | caaggaacca | gttgatgctc | gtgaggtccc | tgattactat | gacataatta | 60 |
| aagaccctat | ggatttgaag | acaatgacca | agagggtcga | atcagagcaa | tattatgtta | 120 |
| cgctcgagat | gttcattgca | gatgtcaaga | ggatgtttgc | taatgcacgc | acctacaatt | 180 |
| cccccgacac | tatatacttc | aaaattgcaa | caaggctgga | agctcatttc | cagagcaagg | 240 |
| tacaatcgaa | tctccagtct | ggtgccggaa | aaattcaaca | gtagagcatt | cggtagactg | 300 |
| gaggccctga | ccttacttct | ctctatatga | atatgtggag | ccttggatac | ttactctgat | 360 |
| ccatgattgc | gctggggaat | taactagctt | cgattgacca | tgtaactgaa | gac | 413 |

<210> 96
 <211> 706
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|-----|
| <400> 96 | | | | | | |
| ctttggcttt | ccttctccat | ctctctcget | ctctctttgg | gattcgtgtg | ttctttcttc | 60 |
| ttttttgcac | cacccgagat | tttccgaaag | ctgaagtggc | cggggagtga | agtttaagag | 120 |
| agagagagcc | atcaccaaaa | gcccgaagat | catggggaga | ggaaagatcg | agatcaagag | 180 |
| gatcgagaac | acgacgaacc | gtcagggtcac | cttctgcaag | agaagggaacg | gactgttgaa | 240 |
| gaaggcctac | gagctctccg | tcctctgtga | tgccgaagtg | gccctcatcg | ttctctccag | 300 |
| cagaggacgc | ctctacgagt | actccaacaa | cagcataagg | tcaactatag | agaggtaaaa | 360 |
| aaaggctaatt | tcagatagtt | caaacacaag | cactgtcaca | gagatcaatg | cccagtatta | 420 |
| tcagcaagaa | tctgcaaagt | tgaggcagca | gatccaaatg | ctgcaaaaact | ccaacaggca | 480 |
| cttgatgggt | gattccttaa | gttcaactctc | tgtaaggag | ctgaagcagc | tggaataatg | 540 |
| gcttgaacgc | ggcatcacia | ggatcagggtc | aaagaagcat | gagatgttat | tgactgagat | 600 |
| cgagtacctg | cagaaaaaag | agattgagct | cgaaaatgaa | agtgtgttcc | ttccgcacaaa | 660 |
| gatagccgag | gtggacagga | ttcagcaagg | aaacatgggt | gctgcc | | 706 |

<210> 97
 <211> 396
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|------------|-------------|-------------|------------|-----|
| <400> 97 | | | | | | |
| gaaaaatggg | gagaggggaag | attgagataa | agaggattga | gaatgcaaat | agcaggcaag | 60 |
| ttacattctc | gaaaaggcgt | tctgggttgc | tcaagaaggc | gcaggagctc | tctatcctct | 120 |
| gtgatgctga | ggttgctgtc | ataatcttct | cgaatactgg | caagctttac | gagttctcca | 180 |
| gttctggaat | gaaacagata | ctatcaagat | acaacagggtg | tcaagattct | ccagagtcca | 240 |
| ctgttgtaga | gtacaagcca | gagtctacga | aagaagatga | taagggtggtg | gacaccctaa | 300 |
| aagatgaaat | cgcagagctg | cagatgagac | aactaaggct | actgggcaag | gacttgaatg | 360 |
| gcctgagcat | aaaggaattg | cagcaccttg | aacagc | | | 396 |

<210> 98
 <211> 379
 <212> DNA

<213> Eucalyptus grandis

<400> 98

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctcgatacag | ctcttaagcg | catcaggacc | aggaagaacc | aactcatgca | cgagtcgatt | 60 |
| tctcagctgc | aaaagaagga | aaaatctcta | caggagcaga | ataacgtgct | ctctaaaaag | 120 |
| atcaaagaaa | atgagaaggt | aatgagagag | agtggacaat | gggagcagca | aaccccagca | 180 |
| ccgaccacat | cctccttcat | gctacaaccc | actttgcctc | ttccttccct | caccattggc | 240 |
| aacacgttcc | agacaccgca | tgtacttggg | ggagcagaac | aagaggagag | atctcaagcc | 300 |
| cgaccagcca | acacgctcat | gccgccttgg | atgatacgcc | gttcaaata | atagagagat | 360 |
| agagaccaac | aacattctc | | | | | 379 |

<210> 99

<211> 421

<212> DNA

<213> Eucalyptus grandis

<400> 99

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| gtacttgtct | gacttgatga | gcagtgggca | caagcacaag | aggaggaagc | agttgcagac | 60 |
| gggtggagctg | aaggtgagga | tggactgtga | tggctgtgag | ctcaagggtca | ggaaggccct | 120 |
| ctcttcttta | gacggagtga | agacggtgga | gataaacagg | aagcagcaga | aggtgacggt | 180 |
| gaacgggtac | gtcgaccaga | ataaggtgct | gaagagggcc | aagtcgacgg | ggaagaaggc | 240 |
| ggagatatgg | ccctacatac | cctacagtgt | gggtggctcac | cagccgtaca | tcgcccagtc | 300 |
| ctacgacaag | aaggcacctc | ccggccacgt | gaggaaggct | gagccaaccg | ccaccagtgc | 360 |
| catcgtgacc | cggcacgagg | acccttacat | gaccctcttc | agcgacgaca | acccaatgc | 420 |
| t | | | | | | 421 |

<210> 100

<211> 460

<212> DNA

<213> Eucalyptus grandis

<400> 100

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| aggatcgaga | acaagataaa | ccggcaagtg | acgttcgcga | agcgggaagaa | cggtgtgctc | 60 |
| aagaaggcgt | acgagctctc | gggtgtctgc | gacgccgagg | tcgcgctcat | catcttctcc | 120 |
| agccgcggca | agctccatga | attctgtagc | ggcccaagg | atcgcgatt | tgtatgttat | 180 |
| cacttgtttt | tctcgttaat | gttatgatga | gacatcagg | ggagaaaccc | agaactgaga | 240 |
| tcacactgtt | tcattaaatt | ctctcgtcca | aattctttcg | ggaaaccctc | agatcttgg | 300 |
| gatctggatc | ttgggtgctg | cctaaggaga | tggcgattta | ttgggttttc | ttcttttttg | 360 |
| ggtttcagtt | tcttgactct | ttttgcgac | tttccgttca | ccatgaaaaa | aagctttcag | 420 |
| ccgcacagtt | tcttgcttcc | tggggtttct | gatcttctct | | | 460 |

<210> 101

<211> 423

<212> DNA

<213> Eucalyptus grandis

<400> 101

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| gatcaatgct | ggtcgctttg | accagagaac | aacgcacgag | gagagacggt | tgactctgga | 60 |
| aacattatta | catgatgagg | aaaggatatca | agaaactgtg | catgatgttc | cctctctgca | 120 |
| ggaggtaaat | cgaatgattg | ctaggagtga | agaagaggct | gagctatttg | atcagatgga | 180 |
| tgaagaactg | gattggacag | aggagatgac | caattatgaa | ctagtgccaa | aatggcttcg | 240 |
| ggccagtaca | aaggagggtca | atgctgctat | tgccactcta | tcaaagaaac | catcgaaaaa | 300 |
| cactttgttt | gctagcacia | tagtggaacc | taatgaaccg | gtatcggaat | cagtgaagaa | 360 |
| gagggggcgg | cccaagagta | aaaagcatcc | taattacaag | gaactagatg | atgacaatga | 420 |
| aga | | | | | | 423 |

<210> 102

<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 102
ttgccgcccc actgaagcac agctgcgagc tactgggtga gaaggacggc gcgggcagct 60
ccggtataac caagggcgag acaccacggc tcaagttgct cgaccagagc ctgaggcagc 120
agagggcctt ccaccagatg ggcattgatg agcaagaggc ctggaggccg cagcggggcc 180
tgccggagcg gtcgggtcaac atactgctgt catggctctt cgagcatttc ttgcatccgt 240
atccaagtga cgctgataag catctgttgg ctgcacagac tggctctctc agaaaccagg 300
tctcgaattg gttcataaat gccaggggtc ggttggtgaa acccatggtg gaggagatgt 360
accagcaaga gtccaaagaa g 381

<210> 103
<211> 473
<212> DNA
<213> Eucalyptus grandis

<400> 103
ctctattcca ctctaatc atgcttttcg tgacaataat tttgtagcat gctcaaaact 60
ctagagagat atcagaagt caactatgga gccctggagc cgaacgtgtc cgcgagagaa 120
tccttgaggt taagctgtca gcaggaatat ttgagactta aggcacgtta cgaagcccta 180
cagcgaactc aaagggtatt aagtttctat tgtcctttta attaaatgtc agcattcgcg 240
ggatgtagtt attttcctac atgattgggg tctatctgtg tcatcgtgaa ctaggaatct 300
tctgggagaa gaacttggcc agttaagcag caaagaactc gagtccttgg aaagacagct 360
agatgggtca ttgaagcaga tcagatcacg aagagtatgt aaattatatt cacgaattct 420
atctaagtca catcctgagt tattgtgaat acaagttact gtgtcaatcg ctg 473

<210> 104
<211> 634
<212> DNA
<213> Eucalyptus grandis

<400> 104
caaaaataga ggatgttagg gaggagatac tacggaaaag gagagccgga aaattaccg 60
gcgatactac ttctgtgttg aaaaattggg ggcagcaaca ctcaaagtgg ccatatccaa 120
ctgaagatga caagggcga cttgtggagg agacaggatt gcagctgaag caaataaata 180
actggttcat caaccaacgg aagcgaaact ggcacaacaa ttcccaatcg gtcacctcct 240
tgaagtccaa gcgcaagagg taggcgcaac ggaccatcat gcttgtcttt gtgccgctaa 300
ctgaaacacg aaacttatca atcgggtattg actctgatat aaccttctga tcgactgggg 360
gtatacttta tagctagagc tgaacacttg tgggtggtgga tcaagcagtg atggtaagta 420
gatgattcat tatggaatta gggcctgtaa caaatgatgc aaattccagt agattacata 480
cacaaaaccc agaaaattga tgtctttttg tttgggtaga agtgcttctg ttgcctaata 540
tctcttgat ttaggcccaa aacaaacaac atgttgattt gttttctgtt ttataaaat 600
tggtgttttt ggcagtaaaa aaaaaaaaaa aaaa 634

<210> 105
<211> 483
<212> DNA
<213> Eucalyptus grandis

<400> 105
ctccagtgga tatcacagga atgcaggcgg tgatgaccgg ctgtgactct agcaacatag 60
ccgcactgcc atccggtttc tcgatcctgc ccgatgggat cgagtcgagg cctctagtca 120
tcagctcaag gcacgaggag aagagctcag aaggaggatc actgctcaca atagcttttc 180
aaatcctaac aaatacctct cccacagcca agttaactgt ggaatctgtg gagtctgtca 240
acactctcat atcctgtaca ttgcggaata ttagaacgag cttgcaatgt gaggatggat 300

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| gacaacttta | agttttat | aaagtagata | gggataatta | actgtacaac | taatagggtg | 360 |
| gagaaaaatt | agcagttcaa | aagcaatggc | tttttttcat | ttgttctttg | gttggattgg | 420 |
| aaggcttggc | ttggttttaa | gcatgttttt | atgcagaaaag | tggtgactgg | cgggcaagag | 480 |
| aga | | | | | | 483 |

<210> 106

<211> 404

<212> DNA

<213> Eucalyptus grandis

<400> 106

| | | | | | | |
|-------------|------------|-------------|-------------|-------------|-------------|-----|
| tgcgagaacaa | gatcaacagg | caagtgcagct | tgcggaagag | gaggaatggg | ctcctcaaga | 60 |
| aagcctacga | gctctccgtg | ctttgcgacg | cggagggtcgc | tctaatacatc | ttctcccata | 120 |
| gaggaaaagt | gtacgagttc | tgcagcagct | caagcatgct | caaaaccttg | gaaagggtatc | 180 |
| aaaaatgcaa | ctatggagca | ccggagccta | gcatctctac | ccgggaagca | caactggagc | 240 |
| taagcagtc | gcaggaatat | ctgaaactta | aggcagccta | tgaagcccta | cagcgaacgc | 300 |
| aaaggaaatct | tcttggggaa | gaattaggcc | ctctgagcag | caaagaactg | gagtctctgg | 360 |
| aaaggcagct | cgattcatcc | ttaaagcaga | ttcgatccac | tcga | | 404 |

<210> 107

<211> 527

<212> DNA

<213> Eucalyptus grandis

<400> 107

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| gctagaaaaag | cgatccattg | gtcaggcagc | agaacagctt | tatctattct | cttgtacgac | 60 |
| gcgcagtaga | cgaagtaaca | tagcccacca | tatgcaagag | ccgaacttgg | ccatgatggg | 120 |
| cggcggttgt | ggcggcggcg | gcgggggcgg | ggggatcgtc | ggtggcggcg | gcggggggct | 180 |
| gggcagcgag | gcgtcgttct | cgggcgatca | cccgcagcgc | cagctcaagg | gggagatcgc | 240 |
| cagccacccg | atgtacgagc | agctgctgtc | ggccacgtg | gcgtgcctcc | gcgtcgcgac | 300 |
| cccgatcgac | cagctgccgc | tgatcgacgc | gcagctggcg | cagtcgcacc | acctcctgcg | 360 |
| ctcctacgcc | tcctcggtgc | agcacggcca | cagcagcctc | tctcctcacg | acaggcagga | 420 |
| gctcgaccat | ttcttggcac | aatatctggt | ggtactatgc | agcttcaaaag | agcagctgca | 480 |
| gcagcacgtt | cgagtccatg | ccgttgaagc | cgatcatggc | tgctcgtg | | 527 |

<210> 108

<211> 482

<212> DNA

<213> Eucalyptus grandis

<400> 108

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| cccatcccg | tgagaagcaa | aggcagcaac | tgagcaaaaca | gctgggcctc | gctcctaggc | 60 |
| aagtgaagtt | ctggttccag | aatcgagaa | cgagctcaa | ggcaattcag | gagcgccatg | 120 |
| agaattctct | gttgaaaaca | gaaatggaga | agctcagaga | tgaaaacaaa | gccatgagag | 180 |
| acaccataca | gaaatcttgc | tgccccaatt | gtggctcagc | caccacaagc | agagataaccg | 240 |
| ccttgacaac | tcaggagcag | caactccgaa | ttgaaaatgc | tcgactgaaa | gccgaggtcg | 300 |
| agaagctccg | aacagctcta | ggaaaagtaca | ctccagggac | ggcatcgctt | tcttgctcag | 360 |
| ccgggaacga | ccaagagaac | aggagctcct | tggatttcta | caccggaatc | tttgggctcg | 420 |
| acaagtcgaa | gatcatggaa | ttggtgaacc | aagcgatgga | agagctcaag | aagatggcta | 480 |
| ct | | | | | | 482 |

<210> 109

<211> 343

<212> DNA

<213> Eucalyptus grandis

<400> 109

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| ctcttcagct | gaaccctccc | tctccccatc | tctcttttct | tgctatgacc | aacgacaaga | 60 |
| acaccaggaa | caaaaaaaaa | aaaaagctcc | aataaaaaat | ctctacaggg | agagagagag | 120 |
| agagcaagaa | ctcaagaaac | cctaaactta | tctagccccg | tgctatcgaa | gagagcgagg | 180 |
| gagaaggaga | gggagaggga | gagggagagg | gagagagagg | gagtggaaat | ggaggaaacga | 240 |
| gcgagagagg | aggaggagg | gtactgatta | atcggtatct | ttctatttat | gtgcaagtgg | 300 |
| aattataata | aggtggcctc | tcctttttctc | cccttctttt | tct | | 343 |

<210> 110
 <211> 617
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| <400> 110 | | | | | | |
| ctcatccgac | cttgtgaggg | aggtgggtgca | atcattcata | ttgtggatca | tggtgatcta | 60 |
| gatgcttggg | gtgttcctga | agttctcaga | ccactttatg | aatcggtcaa | aattcttgca | 120 |
| cagaagatga | ctgttgctgc | tttgcgccat | attagacaaa | tagcccaaga | aagtagtggg | 180 |
| gagattcagt | atggaggtag | ccgacaacct | gcagtcttga | ggacgtttag | tcagaaattg | 240 |
| tgaggggggt | ttaatgatgc | tgtgaatggc | tttgtggatg | acggttgggtc | tggttctaagt | 300 |
| agcgatgggg | tagaagatgt | caccattgct | gtcaactcat | ctccaaataa | atcttcttgg | 360 |
| tcccaataca | atgcaacccat | atctccaaat | tttgggaagag | gagtgtctctg | tgccaaggcg | 420 |
| tccatgcttc | ttcagaatgt | tccgcctgct | gtgcttgtac | gctttctgag | ggaacaccgc | 480 |
| tctgagtggg | ctgaccatgg | aattgatgca | tactcagctg | catctttgaa | aactagtctt | 540 |
| tatgccattc | catgtgtgag | acctgggtgg | ttccctagta | gccatgtcat | tttgcctctt | 600 |
| gcccacactg | ttgaaca | | | | | 617 |

<210> 111
 <211> 380
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 111 | | | | | | |
| gctcttcgaa | cactttctcc | accctaccc | gaaggattcg | gacaaagtca | tgctggccaa | 60 |
| acagacaggg | ctcactagaa | gccagggtgc | gaattggttt | ataaatgctc | gagttcggct | 120 |
| ttggaagccg | atggtggagg | agatgtacac | ggaggaaatc | aaggagcaag | aacagaatgg | 180 |
| gggaggagca | gaggaaaaac | caagcaagag | tgaacgcgag | gactcagcat | ccaagtcctc | 240 |
| tggcctccag | gacaaggccc | ccaactccaa | tgagaacagc | accaagagct | tcaaaccaaa | 300 |
| ggagatcacc | tcgaggaacc | acgacacccc | tgccatctct | actaattcgg | cttcctccat | 360 |
| cggggggaaac | gtccgcagca | | | | | 380 |

<210> 112
 <211> 348
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| <400> 112 | | | | | | |
| gacaaattga | tgaaacatga | atatggatgg | gtgtttaaca | ctccggttga | tgtaaagggc | 60 |
| ctcggtttgc | atgattacta | tagcatcata | aagcatccaa | tggaacttgg | cagtgtgaag | 120 |
| acaaggctga | accggaactg | gtataagtca | ccgaaagaat | ttgcagagga | tgctcagactt | 180 |
| acgttccgta | atgccatgac | atataaccct | gaagggcaag | atgttcatgt | catggctgag | 240 |
| attctgtaca | agatatttga | ggatagatgg | gccattatag | agtcagatta | taatcgtgaa | 300 |
| atgcggtttg | cgtttagacta | cgacatgggt | cttcctacac | ctacctca | | 348 |

<210> 113
 <211> 350
 <212> DNA
 <213> Eucalyptus grandis

<400> 113
ccctcatatcg gaaatgggta ttctctctcca caatatggca atggacctgc atatcacccct 60
atgccaacat actacccgat gggctacagg atctgtgctg gatgcaatac agagattgggt 120
catggacggg ttttgagttg catgaatgct gtttggcatc ctgaatgttt ctgctgccgt 180
gcttgacccc tgccaatttc tgattatgag ttttctttat caggcaatta tccttaccat 240
aaatcttgct acaagggaaca ctaccacca aagtgtgatg tctgcagtca ctttatccct 300
acaaaccttg ccggtcttat tgagtacagg gcgcacccct tttggagtca 350

<210> 114
<211> 534
<212> DNA
<213> Eucalyptus grandis

<400> 114
acatggccag aggatatttg ctccggtcaag agcgacatgt tgcattctga aagtccgcat 60
tacactgacg ctgcccactc ttccgctctta gagcccggcg attcttccta tgctttcgaa 120
cctgaccatt cggacctatc tcaagacgaa gaagataatt tgagcaagag ccttttgtcc 180
actcgcaatt acccaaaagct cgaaaactct gactacgcca tcctgcctcc aaattcgtgt 240
aactttggat tccatgctga ggatcctgcc ttttggcctt ggtcatactg aaggcgtcct 300
tgatgccgtt cactcccttt gttttcttgt atcatatatg aggggatacg ctataagtat 360
gcaataagct ccatcaatag ctagcatctg tccaaatgct gtagtgagct ttctcaagga 420
agttggaacc tgtgttgatt tccttttctt taggttttgt ccttcaatgg gatcgtctgt 480
tttctatgta aactaaataa agaaaccttg tttatcaatg caaaaaaaaaa aaaa 534

<210> 115
<211> 450
<212> DNA
<213> Eucalyptus grandis

<400> 115
aagaaggtaa actcggggcac agcaacagta gcaatagctt ggacaatggg aaatatgtga 60
ggtacacgcc tgagcagggt gaggccctcg agaggctcta ccacgagtggt ccgaagccca 120
gttcaactccg tcgccaacag ctgatcaggg agtggtcccat tctctccaat attgagccca 180
agcaaatcaa ggtctgggtc cagaaccgaa gatgcaggga gaagcagagg aaagaagctt 240
cccgtttgca agctgtgaac aggaagctca ctgcgatgaa caagttattg atggaggaga 300
atgatagggt gcagaagcaa gtttctcagc tgggtgatga gaatggctat ttccgccaac 360
acaccagaa cagcagcgtt gcaaccaaaag acacaagctg tgaatcgggtg gtgacgagcg 420
gtcaacacca gttgacatct cagcatcctc 450

<210> 116
<211> 501
<212> DNA
<213> Eucalyptus grandis

<400> 116
ggaagaaaat atgcagcatt tgaaggacga agctgcgaac atgatgaaga agatcgagct 60
cctggaagat tcaagaagga agctccttgg tgaaggctcta ggatcatgct cgatagagga 120
actgcaacag atagaacagc agctagaacg gagtgttatc agcattcgtg ctagaaagac 180
tcagggtcttc aaggagcaga ttgacaagct taaagagaag gagaagatgt tgacagctga 240
gaatgcaatc ttaactgaga agtgtggaat caagccccc caaagagcaa atgagtgcag 300
ggatagtcca cttctcagag agagcaccctt gagttcggag gtggagaccg gtctcttcat 360
cggaccacca gagaccagat cgaggcgctt gccgtttcag aattaaaaat atagccctag 420
cctctcaaag tttcaaaatg tcacaaggca gacgggcaga aaacaaccac cgaccatggc 480
cgaagaacac caccaccacc t 501

<210> 117
<211> 372

<212> DNA

<213> Eucalyptus grandis

<400> 117

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gacaaggatc | cgaagagacc | cgtgagggac | ccggtcttcg | ccgccgtccc | agataagttc | 60 |
| gtcgcgagca | tgatgaagcg | gtgcggcctg | atcttgacga | aggttatgaa | gcacaagcac | 120 |
| gggtgggtgt | tcaacacccc | cgtcgacgcg | gtcgggttag | ggcttcacga | ttaccaccag | 180 |
| ataatcaaga | accccatgga | tctcggcacc | gtgaagacga | atctcgagag | gaattttctac | 240 |
| cactcgccgc | aggagtctgc | ggccgacgtg | aggctgacct | tcaacaacgc | attgacgtat | 300 |
| aaccctaagg | ggcacgacgt | gcacacatg | gcggagacgc | tgctcgtgca | gttcgaccag | 360 |
| atgttcgac | ct | | | | | 372 |

<210> 118

<211> 378

<212> DNA

<213> Eucalyptus grandis

<400> 118

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gtgagcctct | cccgtgtcga | gaagcacgcg | tcgagcgcca | tgaacaagct | ccacgaagcc | 60 |
| gccatgaaag | gcgacctcgc | ggccctccaa | gacctgctgt | tgcaggaccc | ccagatcctc | 120 |
| cacaagacca | cttcttcgtc | ctccgacggc | acgcccctgc | acgtttcctg | cctctcgggc | 180 |
| cacgcgtcct | tcaccaaaaca | cctcctcacc | cacaaccccg | agctcgccaa | ggaggccgac | 240 |
| tcccgcggct | ccctgcccct | ccacgtggcg | tgcggaagcg | gcgacgtgga | gatcgtcagg | 300 |
| gcctcgtgg | ccgtcgaccc | ggccgggtgt | ctccggtatg | atcgcgaggg | gaggacgcct | 360 |
| ctgcacttgg | ccgccatc | | | | | 378 |

<210> 119

<211> 414

<212> DNA

<213> Eucalyptus grandis

<400> 119

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgacgacctc | gacaacgaga | gggcgtcctc | ccgcggcgcc | ggcagcgacg | aggaggacgg | 60 |
| cgacatgtcg | aggaagaagc | tccggctgtc | gaaggaccag | tccgccgtcc | tcgaggagag | 120 |
| cttcaaagag | cacaacaccc | tcaatcctaa | gcaaaagctg | gcaactggcg | agcagctggg | 180 |
| gctgcggccc | agacaagtgg | aggctctggt | ccagaacagg | cgagccagga | cgaagctgaa | 240 |
| gcagacggag | gtggattgcg | agtacctgaa | gcggtgctgc | gagagcctga | cggaggagaa | 300 |
| ccggcggtcg | cagaaggagg | tgaggagct | gcggcgctc | aagctctccc | cgcagttcta | 360 |
| catgcacctt | ttcccttcca | ccacccttac | catgtgcccc | ttctgtgagc | gcgt | 414 |

<210> 120

<211> 313

<212> DNA

<213> Eucalyptus grandis

<400> 120

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gccgattacg | acgaggggcg | cgacgacaat | ccggggagcc | gccacccggt | gacccggcag | 60 |
| ttcttcccgg | tggaggagga | ggaggagctg | gaagaggatg | gcgagcgggc | aggaatgggg | 120 |
| ggagccgcag | tgccgccggg | gttcccagg | gcgcactggg | tcggagtcag | gttccgccag | 180 |
| tcggatcacc | atccaatcgg | atcgggcaag | ggctcaccga | tattggaggg | ttcacagccc | 240 |
| atgaagaaga | tcaggaaaag | gccgaggctc | cggagctccc | agtatagagg | ggtcactttt | 300 |
| tacaggcgaa | ctg | | | | | 313 |

<210> 121

<211> 415

<212> DNA

<213> Eucalyptus grandis

<400> 121
 cgacgacctc gacaacgaga gggcgctcctc ccgcgggcggc ggcagcgacg aggaggacgg 60
 cgacatgtcg aggaagaagc tccggctgtc gaaggaccag tccgccgtcc tcgaggagag 120
 cttcaaagag cacaacaccc tcaatcctaa gcaaaaagctg gcactggcga agcagctggg 180
 gctgcgggccc agacaagtgg aggtctgtgt ccagaacagg cgagccagga cgaagctgaa 240
 gcagacggag gtggattgag agtacctgaa gcggtgctgc gagagcctga cggaggagaa 300
 ccggcggtg cagaaggagg tgcaggagct gcgggcgctc aagctctccc cgcaattcta 360
 catgcaccta tcccctccca ccaccctcac catgtgcccc tcctgtgagc gcgtc 415

<210> 122
 <211> 385
 <212> DNA
 <213> Eucalyptus grandis

<400> 122
 ggagagccag aagctcatgg aggcgggtcca gaacggcgac gtctcggccg ccgtggacct 60
 cctcgacca gacctctcc tcctcgacag gatcatcgtc ctccggctct ccgacacgcc 120
 cctccacgag gcctccgtgc tcggccacgc cgacctcgtc cgggagctgc tgcgccgcgc 180
 cccccggctc gcctccgagc aggactcccg gggcaactcg ccgctccacc tggccgcccg 240
 caagggccac ggcgagatcg tgggcgagct cctgtcggcc gacccggcgg cggcgtcggc 300
 gcggaacctc gacggcgagg cgccgatcca cgtggcgagg atcaagggcc gggtcgacgc 360
 ggtgggacgg atggctcggg ccgtc 385

<210> 123
 <211> 282
 <212> DNA
 <213> Eucalyptus grandis

<400> 123
 gtatagcggg tatttaagta gcttgaaaca agaactctcc aagaagaaga agaaaggaaa 60
 actacctaag gaagcccggc agaagctgct tagctggtgg gagttacact acaaattggc 120
 atatccatcg gagacagaaa aggtggcatt ggctgaatcc actggttttag accagaaaca 180
 gataaacaat tggttcataa atcatgttat agagtgttgg gtaaagtcca tggcaaccct 240
 aatgcaagaa atatttttga tgactaaggt cattcttagg tc 282

<210> 124
 <211> 383
 <212> DNA
 <213> Eucalyptus grandis

<400> 124
 gcactttcag cttcggcatc ctgaaggccg gcgagggagg tgatggtgtc gcggacgacg 60
 aactcggggg gacgaggcag ctgttcccgg tgaggagggt ggatgcggat atggagtgg 120
 gcggcgagtc gtcctcgctt gataagagga gcgatgtctt cttggttggg gcttgtaagg 180
 aaaagggaagg tccgaggctg gcgatgccgc agcagcggag gaagagcagg aggggaccga 240
 ggtcaaggag ctgcagatag agaggggtta ctttttatag gaggactgga agatgggagt 300
 cgacatatg ggactgtgga aaacaagtgt atttggttgg attcgacact gcacatgctg 360
 cagctagacc tatgatcgag ctc 383

<210> 125
 <211> 350
 <212> DNA
 <213> Eucalyptus grandis

<400> 125
 ttccgaagat atgcagttca tggatgatga cggcttctcat cctcaagggt cgcctttata 60

| | | | | | | |
|------------|-------------|-------------|------------|------------|-------------|-----|
| catggatggg | cactacattg | gtgatgggtcc | ctaccgtttg | ggcccgtagg | ctgtcaatcc | 120 |
| atgcaccata | atcggatata | taggtttgat | gttcttgag | ggctctctgg | tggttgcttc | 180 |
| gcctttacat | tatgtgtcct | agtgtatgaa | ttgttagttg | tgccacctga | tcaaatacatg | 240 |
| ttatagagtg | ttgggtaaa | tccatggcaa | cccaatgcaa | gaaatatttt | tgatgactaa | 300 |
| ggtcattctt | aggatcatatc | tatgtatcct | cttatatgtc | ttggttttcc | | 350 |

<210> 126
 <211> 539
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 126 | | | | | | |
| gctgccttcg | aaggcatgga | ctcgtctccc | agcccaagga | agaagaagaa | ccagctgggtg | 60 |
| aacagaagaa | ggttcagtga | tgaacagatc | aggctactgg | agtctatctt | tgaatccgag | 120 |
| tcgaggctag | agcctcgaa | gaagctgcag | ctcgtctagg | aattggggct | gcagccccgc | 180 |
| cagggtggcca | tttgggtcca | gaacaagaga | gcccgatgga | agtccaagca | gctggagcgt | 240 |
| gacttcgcca | ttcttcgcgc | caactacaac | gccctctatt | cccggttcga | gtctctcaag | 300 |
| aaagagaagc | aatccttggg | cactcagatt | gagaaactaa | accaaactcg | cgagaagccg | 360 |
| caaggagagg | gccagagctg | cgggcatgat | ttggcaacga | acagcaccga | tcgcgaatcc | 420 |
| gacaatgggg | ttcccaagta | tgaagacagt | cagcctgtat | ttccggataa | actaacgcgt | 480 |
| ttgatgggaa | tcccatgtga | ggatgactac | tttggcctaa | agagagcaga | gcctcctaa | 539 |

<210> 127
 <211> 493
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 127 | | | | | | |
| taacctcacg | gacaagctgc | ttcacaaggg | aaatgagaag | gagagtctcc | agtcgtccag | 60 |
| caaatcatct | caagggttat | tccagaaccc | cattgctgat | tctgtttctg | aggacgaagt | 120 |
| gtccagagtc | ccattccta | catggccaga | ggatatttgc | tcggtcaaga | gcgacatgtt | 180 |
| cgattctgaa | agtcctcatt | acactgacgc | tgcccactct | tcgctcttag | agcccgccga | 240 |
| ttcttcctat | gctttcgaac | ctgaccattc | ggacctatct | caagacgaag | aagataattt | 300 |
| gagcaagagc | cttttgtcca | ctcgcaatta | cccaaagctc | gaaaactctg | actacgccat | 360 |
| cctgcctcca | aattcgtgta | actttggatt | ccatgctgag | gatcctgcct | tttggccttg | 420 |
| gtcatactga | aggcgtcctt | gatgccgttc | actccctttg | ttttcttgta | tcatatatga | 480 |
| ggggatacgc | tat | | | | | 493 |

<210> 128
 <211> 627
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|-----|
| <400> 128 | | | | | | |
| ccgagaagag | gacccccaa | aagagaggga | ggaagccagg | cctcggccgc | gacacgccgc | 60 |
| tgaaccacgt | ggaagccgaa | cggcagcgcc | gggagaagct | gaaccaccgc | ttctatgcgc | 120 |
| tgcgagcggg | gggtcccga | gtgtccagga | tggaacaagg | gtccctgctc | tccgacgcgg | 180 |
| tgctctacat | caacgagctc | aagtccaaga | tcggcgatct | ggagtcccag | ttgcagagag | 240 |
| agtccaagag | gggtcaaacg | gaggtcaccg | acgcaaccga | caacctgagc | accaccacct | 300 |
| ccgtcgacca | tagtagccca | tccggatgcg | gcggttcttt | gctcgagggtg | gagggttaaga | 360 |
| tcgtgggggtg | cgacgccatg | ataaggggtcc | agtcggagaa | tgcgaaactac | ccatcgccga | 420 |
| ggttgatggc | agcgatgcgg | gacctggagc | tccacataca | ccacgccagc | ctgtcgacgg | 480 |
| tgaacgacct | catgctccaa | gacgtgggtg | ttagtgttcc | ggagggggctc | aaaggggagg | 540 |
| aagatctcag | agctgcgctt | cttcgggcac | tggaacaatg | acggtcggag | aaattgccgg | 600 |
| gggagagaga | gagagagtac | gtactgt | | | | 627 |

<210> 129

<211> 385
<212> DNA
<213> Eucalyptus grandis

<400> 129
ggaagatgac aaactagggga gaaatagagc atctgcaaac gtggtacaat catcttctgt 60
aaaggggagg ccttctgggtg gaactcttgt tgtatgccct actagtgtgc ttaggcagtg 120
gggtgatgag ctgaaaaata aggtttcaga gaaggctaag ctatctgtat gtatgtatca 180
tgggaccacc aggaccaaag atccatatga attagctaag tatgatgttg ttctgacaac 240
atattctatc gtaagcatgg aggtaccgaa acccgctggg tttaaagatg agaaggatag 300
tctgcaagat gatgatgatg cgttttttgg taggaagaga aagcactctg ctaaactctga 360
gaaaagacgc ttgaagaaag aaatg 385

<210> 130
<211> 345
<212> DNA
<213> Eucalyptus grandis

<400> 130
tttcagattg tttatcaatt ggttgctaga cttcaactcc gcagattctg ctattgatag 60
tgcacatttt cagattttga cagcatttgc gaatgcattc catgctttgc aacctctgaa 120
agttccagcg ttcagctttg catggctcga gctgggttagt cacaggagtt tcatgccaaa 180
gattctctca ggggaactctc agaaagggtg gccttacttc cagcgctcgc tggttgactt 240
gtttcagtac atggaaccat tcttgaggaa tgctgaactt ggtttgccgg ttcattttct 300
gtataagggga acacttagag tgctgcttgt gctgcttcat gattt 345

<210> 131
<211> 766
<212> DNA
<213> Eucalyptus grandis

<400> 131
gccgtctgag gagtcttgct ctctctctct ctctctctct ctcttcttat cttcttctcc 60
cccaaaaccc catcggaccc aaaaacccta acgaagatga atagggagag gcttatgaag 120
atggcggggt ctgtccgcac tgggtgaaaag ggtaccatga gaagaaagaa gaaggctgtt 180
cataagacca ccacgacaga tgataaaaagg cttcaaagca ccctgaagag gattgggggtg 240
aatgccatcc ccgcaattga agaagtcaac atttttaagg atgatgtagt tatccagttt 300
ttgaatccca aagttcaagc gtctattgct gcaaatacct gggtagttag tggttctcct 360
cagaccaaga agctacagga taccctccct ggcacatca accaattagg tcctgataac 420
ttggacaacc tgaggaagtt ggcagagcaa ttccagaagc aggtgcctgg tgcggccact 480
ggttctgggt cactggaat gcaggatgac gacgacgacg aagtccccga gcttgtaacct 540
ggcgagactt ttgaggccgc cgctgaagag ggtcaggcga ctcagggtgac tgaggcgact 600
cagggtgactg aggccactaa ggtgactgag gcaactccgg cctcctagag agagggattg 660
ttattgtcat ttcaatactt gtatgtctat taaaatcctt attttctctc atttgtctgt 720
ctttccattg tacttttaac gaactgtttt aatctcgtga ggcttg 766

<210> 132
<211> 162
<212> DNA
<213> Eucalyptus grandis

<400> 132
ggatcttgcc aaaagggtga ctctgtgag tacgcgcacg gcgtatttga gtcgtggctt 60
catcctgcac agtatagaac aagactgtgc aaggatgaga ctggatgtgc tcgcaaagtt 120
tgtttctttg ctcacaagcc cgaagaatta aggcctgtct at 162

<210> 133

<211> 518
<212> DNA
<213> Eucalyptus grandis

<400> 133
attatatcgt cgtgtctatt tcccgaataa tttgcataac tactagctgg gtcctgtcgt 60
aagccttaca ataaatctac tattagctga gtattgggtg tcgaataatt tgcacgaagc 120
cacgaactat tggcaatcga tctcatggct tcctcgagcg gaacgtcttc cgggtcaacc 180
ttgatccaga actcgggagc agaggagagt ctgcaggcct tgatggatca gaggaagagg 240
aagaggatga tctccaaccg cgagtcggcg aggcggtcgc ggatgaggaa gcagaggcac 300
ctggacgacg tgatgcttgt ggtggctcag ctcaggaaaag acaaccagca gctaaggagc 360
aacgtgaacg tgggtgaacca gcattacatg accctggaga ccgagaactc catcttgagg 420
gtccagatga acgagctcac caacaggctg gagtctttga aggatatact cggtatcctg 480
gatgccggag atggtggcag accaggaaat ggtggcgg 518

<210> 134
<211> 413
<212> DNA
<213> Eucalyptus grandis

<400> 134
cctcgtcctc tcccccccc accggagctt cgaaatcgag cggcggcgac gcgatgacgg 60
acggccacct cttcaataac atctccctcg gcggcccgcg cggctccaac cctggacaga 120
taaagatttt ctcaggaggg atttcatgga ggagacaagg aggcggcaaa gcagttgaag 180
ttgataaatc tgacattgtc ggggtgacct ggatgaagggt gccgaggaca aatcaattag 240
gtgtccgcac caaagatggg ttacattata agttcactgg attccgagac ccggatgtta 300
ttagtttgac caactttttc caaaatacct gcgggttaac tccggaggag aaacagcttt 360
ctgtgagtgg tcggaactgg ggagaagttg atttgagtgg taatatgctg aca 413

<210> 135
<211> 278
<212> DNA
<213> Eucalyptus grandis

<400> 135
agactggggc ccatggggcc caaaactctc tgcaatgctt gtggatatccg ttacaagaca 60
ggtcgcctct ttccagagta ccgtcccagt gcaagcccaa catatgtccc ttctcttaac 120
attgtatcca atgaaatccc ttcaagccat ttatggcttt ccttcttca aaaataaatc 180
ttttcaacca ttgtactcc cacacgtatc cgactcacag taaggttgca aaaccacgtc 240
tatgttgtcc aaccttctcc aaaagagtgg cagagtac 278

<210> 136
<211> 237
<212> DNA
<213> Eucalyptus grandis

<400> 136
ccgggggtggc aatcgatgtg aagataatgg gttgggatga agtggttcga gtagagagcg 60
gacggaagga tcatcctgca gcaagggttaa tgggtggctct tcaagaattg aacttggagt 120
tgacgcatgc tagtgtttct gtgggtgaacg agctcatgat ccagcaagcc acagttaaga 180
tggggagtca gttgtacact caggagcagc tcaaggcagc tctattggcc gtaatct 237

<210> 137
<211> 371
<212> DNA
<213> Eucalyptus grandis

<400> 137
 ccaagccgcc gatgaagaag cagaagagca agcccgcgtgc tgcttcggag acggccggac 60
 cggcccgacg gtgcagccac tgcggcgtgc agaagacccc gcagtggagg gccggcccca 120
 acggggcgaa gacgctgtgc aacgcgtgcg ggggtccggtt caagtcgggc cggctgtacc 180
 cggagtaccg gcccgcgtgt agccccacgt tttctagcga gctgcactcg aaccaccacc 240
 gcaagggtgct ggagatgagg cgcaagaagg agtcaatgac gacgacggca ctgggtcagc 300
 ccgagcccgg tcgggcccgt gcccagcttt tgagggcaag ggtgggttct tcttggcgcc 360
 ctcggaatat a 371

<210> 138
 <211> 947
 <212> DNA
 <213> Eucalyptus grandis

<400> 138
 caggaagac ctgttccact gctaattgctg agggtcgcta agacagtgga tgcttatctc 60
 ggcgagatcg ccacctacag tgagggtcagc attgcaaagt tcaatgggat tgctactatc 120
 gtgcctaaag gagcccgaaa ggttgacgat gatctttatc gtgcgattga tatctacttg 180
 aagtctcacc cgaacctcga tgaagatcat cgtcaacctt tcgggtcctt ttaggccgcg 240
 ggctctctcc gctgtggcaa gagctgccgc ctccggtgga tcaattacct gcggccggac 300
 ctcaagcggg gcaacttcac cgaagaagag gatgagatca tcatcaaact gcacagcctt 360
 cttggtaaca aatggctcgt cattgctggg cgtttgccgg ggagaacgga caacgagatc 420
 aagaactact ggaacacgca cataaggagg aagcttttga accgaggcat cgatccggcc 480
 actcacaggc tgatcaatga gcccgcacaa gatcaccatg acgagcccac catttctttt 540
 gctgctaatt ctaaggagat caaagagatg aagaacaacg cagagctcaa tttcatgtgc 600
 aacttagaag agtcggcaga cgtggcatcg tcggctcgag aaagggtgcc tgacctgaat 660
 ctcgagctcg gaatcagccc tcctttctcat caactgcac agcctgagcc actcttgaga 720
 ttcactggta ggaaaagtga tttgtgtctg gagtgttaatt tggggttgaa aaatagccaa 780
 aattgcagat gcagtgttg ggtgatcgag agtgaaacta gtgttgggta tgacttcttg 840
 ggcttgaagg caagtgtttt ggattatagg agctgaattt tgggtgaagaa gatggataat 900
 tgtgcagcga agagatgagg cagagattgt tattagttga aatctgc 947

<210> 139
 <211> 509
 <212> DNA
 <213> Eucalyptus grandis

<400> 139
 caggaatcga aaaaaaacat aaaaaaaaaa aaaaaagacg cagtttttat cgcctgtcga 60
 acagaaaaaa cccccctcc aacaacaaga ttttccccct tcaaaaagtc aagaatcggt 120
 tccccacccc gacagaaata aaaaagaaca gaaaaaaaaa cgtccagatc ccatttggga 180
 gctcctcggg cgcgacctt ttggtgatc ctcgtgcgcc cacgaagggt cctcgggtcg 240
 aatatccgca gattctgggt tatcgttggt tttcggatcg ggtttggtat attgggcgca 300
 ttgggaggac gggaaaaatt caagaatgtc cgttctgtca aaaagcgatt ctggtgagat 360
 tagggagggt tggaataaca atctggaaga cgagttttcg ttcattcgcg aaatcgtgga 420
 tgattatccc tacattgcca tggacaccga gttccctggg atggctcctc gaccggtggg 480
 gaatttcaag agcagctccg agtctcatt 509

<210> 140
 <211> 426
 <212> DNA
 <213> Eucalyptus grandis

<400> 140
 ccatgagaag aaagaagaag gctgttcata agaccaccac gacagatgat aaaaggcttc 60
 aaagcaccct gaagaggatt ggggtgaatg ccatccccgc aattgaagaa gtcaacattt 120
 ttaaggatga tgtagttatc cagtttttga atcccaaagt tcaagcgtct attgctgcaa 180

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atacctgggt | agttagtgg | tctcctcaga | ccaagaagct | acaggatata | ctccctggca | 240 |
| tcatcaacca | attaggtcct | gataacttgg | acaacctggg | tagttagtgg | ttctcctcag | 300 |
| accaagaagc | tacaggatat | cctccctggc | atcatcaacc | aattaggtcc | tgataacttg | 360 |
| gacaacctga | ggaagttagc | agagcaattc | cagaagcagg | tgcttggtgc | agccactggt | 420 |
| tctggt | | | | | | 426 |

<210> 141
 <211> 310
 <212> DNA
 <213> *Eucalyptus grandis*

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 141 | | | | | | |
| tactgggaaa | ctctcatggt | cttccaatct | gaagagcttc | ttcacaacag | ctgcgtcagc | 60 |
| gaggtgattt | ccagattcaa | tggtccgagt | tcgccggacg | cggcggcgct | gccggtagca | 120 |
| tctaaaagca | ttgacctgga | aagaaatagg | aggaagaagc | tcaatgaaaag | gctcttcgca | 180 |
| ctcagagccc | ttgtacccaa | gataagcaag | atggataagg | cttcgatagt | gaaagatgct | 240 |
| attgattaca | tccaagactt | gcgtgaacaa | gaaggaagat | ccgagccgag | atcgagagc | 300 |
| tcgaatctgt | | | | | | 310 |

<210> 142
 <211> 622
 <212> DNA
 <213> *Eucalyptus grandis*

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|-----|
| <400> 142 | | | | | | |
| ccgggggtggc | aatcgatgtg | aagataatgg | gttgggatgc | agtggttcga | gtagagagcg | 60 |
| gccggaagga | tcatcctgca | gcaagggttaa | tggtggctct | tcaagaattg | aacttggagt | 120 |
| tgacagcatgc | tagtgtttct | gtggtgaacg | agctcatgat | ccagcaagcc | acagttaaga | 180 |
| tggggagtca | ggtgtacact | caggagcagc | tcaaggcagc | tctattggcc | gtaattctgag | 240 |
| gatctttgaa | ggatttctgt | caatgcaagt | tggcatcgac | tagacaatgg | aattgaagtt | 300 |
| tctccattga | aagcaagaac | ctgcccaata | ttttcagggt | ccgggtggtg | cgaactcttt | 360 |
| gaacaatggg | ctttgttttag | ttgtgtggct | tcgtctggta | gattgaaccc | ctagattgca | 420 |
| agttgaagta | aatacctagt | tctagcagat | agtaattttt | tttccacggt | gatctcctgc | 480 |
| ctgtcttcga | tgtaaataga | tgctccaaat | ttgaaactga | tggggccggt | tccttatcct | 540 |
| ttgttagctt | gttctgccgt | ttgttgggtt | caaccaagat | catgtctctt | gtacaccaag | 600 |
| catcctgtaa | tcaatgcgca | ag | | | | 622 |

<210> 143
 <211> 369
 <212> DNA
 <213> *Eucalyptus grandis*

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| <400> 143 | | | | | | |
| cggaatttat | agttgtctta | acttagatgc | tagcaatggc | ggaagttctg | caattgatcc | 60 |
| atctatctca | agtgccattt | tagacgattt | ttgcacaata | aaggatggac | cttttccgaa | 120 |
| tctttcagat | tgtttggtgg | gcaacttcag | ttcaagccaa | gatgttcagt | ctcagattac | 180 |
| ttctgcaagt | cttgacagatt | ctcaggcttt | ctcaagacaa | gacttccctg | ataattcagg | 240 |
| cggtagatct | tcgagcaatg | ttgattttga | tgagagtagc | attttgaaaa | acagcacatg | 300 |
| gcaacagcaa | gtagccccac | ctatgcgcac | ctatactaag | gttcaaaaagg | caggatcagt | 360 |
| cggaaggtc | | | | | | 369 |

<210> 144
 <211> 768
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 144

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|-----|
| aagaattcga | cacagtcaac | tttgaatatag | cagtgtcgag | aaacagagtg | ttgctcccta | 60 |
| tgtgactggc | taacatgtaa | agcaggagat | tgaaggcagc | tccagcccag | gctgtttcat | 120 |
| aaagtatacc | agaagttctt | gtcgtttcct | ggtagagggg | atagatccta | gcaattctcg | 180 |
| gtacataattg | gccataaatg | acgaacttca | gtgactcctt | cgacattaaa | ggaacctggt | 240 |
| acgtcatcgc | tgctgccgag | gtacacattc | gcgagaaccc | atctctcggt | ggtttccaat | 300 |
| tcgaagttcg | tgcgctcgcc | ctctcgatct | ttgaggaaaag | cgaggacagg | gttgcgctct | 360 |
| gttcgcgcca | tgggggtcttc | tgcttcttcc | cagaggccccg | acaaccttca | agacaaaagt | 420 |
| ggccctgtct | ccgtgagtga | tgaagagtg | aagaaacgcc | tgactccgga | gcagtattac | 480 |
| gttggccggc | aaaaggggcac | tgagagggct | ttcactgggg | agtattggaa | caccaagacc | 540 |
| cccggaaactt | atcattgcgt | ttgctgtgac | acacctctat | ttgaatcaaa | tacaaagttc | 600 |
| gatagtggaa | ctgggtggcc | atcttactat | cagcccatag | ggaacaatgt | caaatacaaaa | 660 |
| ttggatctct | cgatcatttt | catgccacgc | caggaagtcc | tgtgtgctgc | ttgcgacgcg | 720 |
| catcttggtc | acatctttga | tgatggggcca | cccccaactg | gtaaacgc | | 768 |

<210> 145

<211> 546

<212> DNA

<213> Eucalyptus grandis

<400> 145

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gaaagaagaa | gggttggtga | tagaggagat | agaataagaa | gggatggcgc | agcttatggt | 60 |
| ggacaagtgc | ggggagggct | tgctggtggc | ggtagaggca | cagaaggcgg | tgccggcgcc | 120 |
| gttctgacg | aagacgtacc | agctggtgga | tgacccctcc | accgaccaca | tcgtctctg | 180 |
| gggagacgac | gactccacct | tcgtcgtgtg | gcgtccccc | gagttcgccc | gcgacctcct | 240 |
| tccgaactac | tttaagcaca | ataacttctc | cagcttcgtc | cgccagctca | acacctatgg | 300 |
| ttttaggaag | atagtaccag | acaggtggga | attcgccaac | gagttcttca | ggaaggggga | 360 |
| gaagcattta | ctctgcgaga | ttcaccggcc | caagaccgcc | caaccacaac | tcaccaccca | 420 |
| ccaccgcac | tccgcctccc | cgcttagcgg | ccccactccg | gccttcttcc | ctttcccaag | 480 |
| ccgcctcagc | atctctccct | ccgactccga | cgaccagcat | tcctcccact | ggtgcgactc | 540 |
| gccgcc | | | | | | 546 |

<210> 146

<211> 640

<212> DNA

<213> Eucalyptus grandis

<400> 146

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| cgcgggcgcg | tcgacgaaga | acacctcaga | atcaacacca | ctccccaatt | tctctctcta | 60 |
| agatcccaca | cccaaccgcc | accctcaatc | tctctctttc | tctctcttct | tcagtgtctg | 120 |
| ccatggcttt | ggaggccctc | agctcccca | ccgctccctc | cgccccgttc | caattcatga | 180 |
| aggactcctc | ccccgcggcc | gccgcggccg | ccgcctcctc | ctcctcctcc | gcctacgacc | 240 |
| tccccctcgc | cgagccctgg | gccaaagcga | agcgtcccaa | gcgccccac | aaccgcctct | 300 |
| ccgaggacga | gtacctcgcc | ctctgctca | tcatgctcgc | ccgcggcggc | gccggccgga | 360 |
| ccctcccccc | gccgcctccc | cccgcggtct | cttccgaggc | ggccaagggtg | gcctacaggt | 420 |
| gccccgtctg | cgacaagggc | ttccccctct | accaggccct | gggcggccac | aaggccagcc | 480 |
| accgcaagca | cgcctcctcc | gccgcggccg | ccgcgggggg | tgacgaccag | ccgaccacct | 540 |
| cgagcacctc | cgcggcgacg | acctcctccg | gcgtctccgg | gaagggtccac | gagtgtctga | 600 |
| tctgccacaa | gagcttcccc | accggccagg | cgctcggcgg | | | 640 |

<210> 147

<211> 236

<212> DNA

<213> Eucalyptus grandis

<400> 147

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atcagcagca | gcagatggcc | gaggcaagag | acgctcactc | ttcttgagat | cagatctcgc | 60 |
| ctcgatccca | agttcaagga | ggccaatcag | aaaggaccct | tgtgggacga | agtctccagg | 120 |

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| ataatgtctg | aggaacatgg | gtacaataga | agcggcaaga | agtgcagaga | gaagtttgaa | 180 |
| aacctgtaca | agtactacaa | gacaactaag | gaaggcaaaag | ctggaaggca | ggatgg | 236 |

<210> 148
 <211> 520
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 148 | | | | | | |
| ccggagcccc | agaggaagtt | cgacacttgt | catcgcccag | cgcgactcgc | agattcggtt | 60 |
| cgatctcggg | ggggaaatcc | aacttgcccg | aaatagcaat | cgagccttgc | agaatgggtc | 120 |
| ctcaaataaa | cttccgaaac | ttggccgatg | tgccagcagc | cgaaagaagc | accggagggc | 180 |
| aaccaggaat | tcccctatta | tctcgacaat | cctcagtata | ttccttgact | ttcaatgagt | 240 |
| ttcagaacac | atggagtggg | ctttctaagg | atattggatc | catcaacatg | gatgagttcc | 300 |
| tgaagaacat | atggacagct | gaggagagcc | aactacagct | acaagacatg | gcgccttctg | 360 |
| gtaatggagg | ggaaggaggt | ggtcaagtag | ggaatttgct | gagacagggg | tcattgactc | 420 |
| tgctcgggac | tattagtcaa | aaaacagttg | atgaagtgtg | gagagaatta | ttcaaagaga | 480 |
| cggaggatgt | gaaagaaggg | agtagagaag | gaggtgacat | | | 520 |

<210> 149
 <211> 148
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 149 | | | | | | |
| gacttcgagc | ggaaccgggc | ggaggggggtc | gactcggccc | ggttcgcgga | gctgatgata | 60 |
| tcgtccggcc | tactgtgcaa | cgacgcggtc | atctgggtca | ccttccacag | cgctacgac | 120 |
| ttcgggtacc | tggtcaagat | cctgacc | | | | 148 |

<210> 150
 <211> 443
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 150 | | | | | | |
| cacaacaccc | ccatatcagt | aaacacttct | cgctgctcca | gccagcttct | gtctcatata | 60 |
| aacactagcc | ccacctcact | cattatccgc | ttcgctccta | ctcaactgct | atcgcgctat | 120 |
| cccagcgagc | acgtcctccc | atgaacttct | ccgacaagga | agtgcagctc | gcgtccgacc | 180 |
| acccgaagaa | gcccgcggg | agaaagaagt | tccgggagac | ccgccacccc | gtgtaccgag | 240 |
| gggtgctgct | gcgcgactcg | ggcaagtggg | tctgagaggt | tcgcgagccc | aaaaagaagt | 300 |
| cgaggatctg | gctcggcacc | ttccctactg | tgagatggc | agcgagggcg | catgacgtgg | 360 |
| cagcgctcgc | gctgagaggc | cagtctgcct | gcctcaactt | cgcgactctt | gcgtggcggc | 420 |
| tgcccaagcc | ggcatcgagc | gat | | | | 443 |

<210> 151
 <211> 341
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|-----|
| <400> 151 | | | | | | |
| ggcatggaca | gtaggacttc | gagtcgcctc | tctgggggtga | ctcttcagga | ggccccgcca | 60 |
| acttctagcc | aggttcctga | gattccacca | gctttggggg | cctcagcaaa | tgatccctca | 120 |
| tctgccgtat | ctgaactaaa | ggctccgtca | cagggtactg | ctaagggtcac | tactaaccag | 180 |
| tttccagata | tggttatgct | cgaggagca | caggagtctg | aagcagtctc | cgtaaatcag | 240 |
| gcagataccg | ttatgactgg | gatctctcaa | acacaagaca | tggtgctgga | ggatattgct | 300 |
| aatatatcca | gagatgacta | catggggagca | gatctgcata | a | | 341 |

[illegible]

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| gaaaagcgta | cgcgaggagg | cagcatgcgt | ggctcaccgg | agctaataag | gttgatagca | 60 |
| agactttttc | gagagctatt | cttgcaaaga | gtgctcgtat | tcagaccgtg | gtttgcatcc | 120 |
| ctcttctaga | cggcgtagtg | gaatttgga | ccacggaaag | ggttcaagag | gacatttcac | 180 |
| tcgtcaatca | tgtcaaaacc | ttcttcgttg | accaccacc | ccctcaccca | ccgaaacccg | 240 |
| ccctttccga | acactcgacc | tccaaccccg | ccgccacctc | gtccggccac | caccgcttcc | 300 |
| actccccgcc | cgtccctctc | tacgccccgg | ccgatccacc | cgctgcagcc | aaccaagggg | 360 |
| atgaggagga | agaggacgac | gacgacgacg | aggaggaggg | agagtcagac | tccgaggccg | 420 |
| agaccggccg | gcagggggcg | gcggcggcag | cgcagaacc | tcacggcgca | gggcccgcaa | 480 |
| acaacgccga | gccagtgag | ttcgagatgt | ctgaggacat | ccggctcggc | tgcgcagacg | 540 |
| acgggtcaaa | caacctggac | tcggacttcc | ccatgctgac | cataaaactcg | acggcccgcg | 600 |
| atc | | | | | | 603 |

[illegible]

| | | | | | | |
|------------|-------------|-------------|-------------|------------|-------------|-----|
| gggatgggtc | ctgtaggag | cgaagatg | gagaagaatc | cgaagcgact | cgaatcctta | 60 |
| atgtgagact | cgaggacgag | ggccagcaga | ggataggaa | acgggtgctg | gacaagttgc | 120 |
| acaccgtctt | tggtgggtcg | gataggaca | attatgctct | cggcttggac | cgggtgacgg | 180 |
| acatggagat | gttctttctg | gcgtccatgt | acttcttgtt | tccctcggga | gaagggggtc | 240 |
| caggcaaagt | ttttgcctcg | gagaagcatg | tatggctgac | agatgcactc | aagtcgtctt | 300 |
| ctgattattg | cgttcgggtca | tttcttgcaa | agtctgcagg | gattcggaca | atagtttttg | 360 |
| ttccgactga | cgttgggggt | gtagagttgg | gttcggttag | atctgtcccg | gaaagctcgg | 420 |
| agctggtgca | gaccataaga | ttgtctttct | cgacgaattc | atztatgtcg | gttaagccaa | 480 |
| tagctgcctt | acccatgacg | aatgaaaaga | aggacgaaaa | cgcacccttc | tctaatttgg | 540 |
| cgttggcagg | taagggtgag | gcaatctcca | agatatttgg | taaggagtta | accacagtta | 600 |
| acagtcctgg | ccattatagg | gagaaaacttg | ccgttagaaa | gatggactcc | aggcaatcgt | 660 |
| gggaacctta | ccataacgga | agtaaaactcc | cattttcaac | tcctagaaat | ggcaccceaag | 720 |
| acacgagttg | ggctcatcat | gctcatggcg | taaagcagtt | gagtcctgtg | gaattttatg | 780 |
| gctctcaaac | ctcagccagt | aaattagagg | agcggatgaa | cagcggtagg | aatgattttg | 840 |
| gattgaaccg | ctacccaaca | ccaaagcagg | tgcaaattgca | aatcgacttt | acaggtgcca | 900 |
| cttcaaggcc | ttctgtgata | acccgacctt | tcactgccga | ctctgagcat | tctgatgttg | 960 |
| aaqcttcatg | caaggaagag | cagg | | | | 984 |

[illegible]

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgaactgga | ctcccatctc | cggcgagtga | aacgatcgag | gaggaggagg | aagaagcgac | 60 |
| gatgatgatg | atgacgatgg | cgccggcg | cggcaccac | cacgccgct | ccaccccgac | 120 |
| cgtccagatc | cccccggtg | gggaccgct | cgacgaccg | gccaccggcg | gctgcggcgg | 180 |
| gccgtactca | ccgtactccc | cgtactcccc | gtactccggc | ggcggcaatg | ccggcggggc | 240 |
| cgcgggagga | ggggagtgct | gcaacgacct | gacggcggtg | cgcggttcc | tgcgctcgaa | 300 |
| ccaccaccag | gacgaggagg | acgaggagga | cgggcgggcg | ccgggggagg | acggcgtgct | 360 |
| gggctgcgac | gagttccgga | tgtacgagtt | caaggtgagg | aagtgcgcgc | gcgggaggtc | 420 |
| gcacgactgg | acagagtgcc | cgtacgcgca | ccccggcgag | aaggcgcgac | gcagggacc | 480 |
| gcgcgggttc | ttctactccg | gcactgcatg | tcctgatttc | cgcaaaggcg | cgtgcaagaa | 540 |

```

gggtgacacg tgcgagttcg ctccacggcgt gttcgagtg cggctccacc cggagcgata 600
ccggacgcag gcgtgcaagg acgggcaaaag ctgccgccgc cgcgtctgct tcttcgcccc 660
ctcccccgac cagctccggg tctccccgc ccaccagcag cagcagcagc agcagcagca 720
gcagcagcac agtcccaaga gcgccaccga ctccgagttc ggggtccccg tccgccccctc 780
cgctgccgcg gcggcgccct tcgactccta cttcaccaag ccgtggtcgg cctccttcat 840
atcctcgccc acctcgatcc tgaccacctc gtgcgccccg atctcgcccc cgaccaactc 900
gccccgatg tccccgaacc aacgcggcgg ctgctgcggg tcgcccggat cggtgagcga 960
gctggtggcc tgcatgagga atatgcagat cgccaagatg aagatgagcc cccgcgggca 1020
gatggggggg tctctcttcg ggtccccgct ccgacccggg tgccaccttg cggcgccggg 1080
gactcccagg gccgagtctt caccgcggta cgggcaactc ggcggtggag gtggaggcgg 1140
gctc 1144

```

<210> 155
 <211> 238
 <212> DNA
 <213> Eucalyptus grandis

```

<400> 155
tattgataag atggcggaag caccggcgag tccgatgggc ggtgggagcc acgagagcgg 60
cggcgagcag agcccgagc tcggcgggcg tgaggagca ggataggtac ctgccgatcg 120
cgaacatcag ccgcatcatg aagaaggcgc tgccggccaa tgggaagatc gccaaaggacg 180
ccaaggacac tgtccaggag tgcgtctccg agtttatcag cttcataacc agcgaggc 238

```

<210> 156
 <211> 950
 <212> DNA
 <213> Eucalyptus grandis

```

<400> 156
gacgcttccc tctccccca tcccggccat ggcgaccccc gacgaacgcc cctcctcctc 60
ctcctccgcc gcctccgcc tcgccatccg ccaggctcgg gcctggaacc tcgacgccga 120
gttcggcctc atccgcgacc tcacgcagcg ctaccccttc gtctccatgg acaccgagtt 180
ccccggcctc gtcttccgcc gccccgccgg cgccggcgcc ggcgcccgcc cctccccctc 240
cgaccactac cgctcctca agtccaaagt cgacgccctc tccctcatcc aggtcggcct 300
caccctctcc gacgcccgcg gcggcctccc cgggttcac tcgggagttca acttccggga 360
gttcgacgcc gcccgcgacc cccacgcgcc cgactccatc gagctcctcc gccgccaggg 420
cgctcgacttc gaccgcaacc gcgccgaggg gatcgactcc gcccgcttcg ccgagctggg 480
gatgtcgctc ggctcgtct gcaacgacgc cgtcagctgg gtcacgttcc acagcgcta 540
cgacttcggg tacctggtea aggccctcac ccgcgcgag ctccccggcg acctccgga 600
gttcctcgcc gtcgtgcggg tgttcttcgg ggaccgggtg tacgacgtga agcacctcat 660
gcggttctgc cacagcctgc acggcgggct ggaccgggtc gccgcggccc tggagctgga 720
ccggcgggtc ggcaagtgcc accaggccgg ttccgacagc ttgctgacgt ggcaagcgtt 780
caggaagatt agggacgtct acttcgcaa cgacgacggg ccggagaagc acgccggcgt 840
gttgtagcgg ctagaggtct attaggatca atccccaaaa ttcaattcat tcttttgtag 900
cgtaccaa atgtgggtac attttgtgaa tattgttcgg tatcttattc 950

```

<210> 157
 <211> 272
 <212> DNA
 <213> Eucalyptus grandis

```

<400> 157
gtcctgtctg gaggtcttct gagctgagag atttaaaagg tctgtaaaag attcaagggt 60
tcttctaccc agaggaaaaga acctacttct tcttttatca cccatgggtt cttaaacctc 120
gtgacagtgc aatttaaaaca ttagagcaaa acataaaaaa agaagagagc tgttcaaagt 180
gctactggcg tagaaggcaa tgaagggtgc ccagcaaac tgagaaaagca gcttgctgtg 240
gctgtgagga gtatccaatg gagctacgca at 272

```


<210> 158
 <211> 863
 <212> DNA
 <213> Eucalyptus grandis

<400> 158
 ttctactcca ccttcatctc acaataaaaa ccagcagtcc agcacgagca cattatccac 60
 ttccactcca gaactcaagc gcagacgtac tccaatgaac cacttcttct cttcttactc 120
 cgatcccagc tcctgcagcc tcgactttgc tgaagcgctcgc tcctcctcgt cgccgctgtc 180
 cgatggcagg agtgctatgg tgcccgggaa cttttctgat gaggaggtgc tcctggcgtc 240
 gcaccagccg aagaagcgcg ccgggcggaa gaagttccag gagacgcgcc acccgtgta 300
 ccgcgggggtg cggcggcgaa gctcgggcaa gtgggtctgc gagggtccgcg agcccaacaa 360
 gaagtcgagg atctggctgg gcaccttccc caccgcggag atggctgcga gggcgacga 420
 cgtggcggcg ctgcgcgtga ggggcccgtc cgctgcctc aacttcgcgg actccgcgtg 480
 gcggctgccc gcgcggcggt cggcgggacg aaaggacata cagcaggcgg cggcccaggc 540
 tgcggaggcg ttccggccgg cggagtcga ggctgaggac gtgatgtcgg ggtacgagaa 600
 gaagtcgcct tcggaggagg gaatgctgta cgacgcagag gacgtcttcg ggatgccggg 660
 gttactcacg aatatggcgg aggggatgct cttgcctcca ccacaatgcg gcggagatgg 720
 gtacggcgga gaggacgacg ggaatctgga tgcatactg tcgttatgga actattccat 780
 gtagtcattt ctcaatttca gttgtacttt ttgtggttag ggacgactgg gatgccgact 840
 aaaatatttt tgaatggagt gcg 863

<210> 159
 <211> 936
 <212> DNA
 <213> Eucalyptus grandis

<400> 159
 ggggtggctta ggcttactat agagagggat aggagagaga gagacaggag agagagggac 60
 aggagagact ttgttgttgt tgttgctgct gttgttgtgg tggagtgtgg aggaaggagg 120
 aaggaaagga ggagaagggt tcaagagggg agacatgttc agcttgatcc caacagttcc 180
 attctttgct tcttccctcc tgaccagatc cttcaccagc tgatatctga atgagctgag 240
 gagagtccat ttcttgttca ctgtctactt gaatttggat cactttgtaa attgctggaa 300
 ttgatgcct ataagaatcc agaacttgcc aaagaaaaat ttcgatcaag gttcgagcct 360
 ttcgatgcct catgtcgggg tgacttacc accatgggtg agcctgaatg aacagcaact 420
 tccgcaatct ttacccaaaa atagtggctt gaaagcgaa tctccacca tgctccatca 480
 tcaagcaaag catttaggtc ttcaactaca agaacaggaa tcgtcttcaa ctcaatcggc 540
 tggcaattct tgccatgaag tgagcgtcgt ggggtggggc aactctcaag atcaaaagcat 600
 ttcacttgaa tctggtcaag atgaaagtgt tggcaggagc tttgagggcc agacaaaagcc 660
 aattttcatg ttcaacaatc cggagattgt cttcaattct tcaactagctg atcaaaatca 720
 acctctgatt cgtgttccat atccaccagt cgatccttat tacggtgggc ttctgactgc 780
 atacagacca caggctatta ttcaatccca ggtaggatct caaatgttcg ggatggcacc 840
 tggacgtgtt ccattgccac ttaaccttgc agaccatgga ccaatctacg tcaatgcaaa 900
 acaatattca cggaattctt cggaggaggc agtcac 936

<210> 160
 <211> 281
 <212> DNA
 <213> Eucalyptus grandis

<400> 160
 agggctatgg gtttgttagg ttcggcgatg agactgagca gttacggggc atgaccgaaa 60
 tgaatggcat gtattgttct tctcgcccca tgaggattgg gcccgctgct aacaaaaagc 120
 ctattgctac ccagcaatat cagagtgcac cttaccagaa cagtcaagga aaccaagggg 180
 agaatgatcc aaataatata actatatttg tcgggggtct ggatccaagt gtatcagatg 240
 accttttgag gcaagtattc agtcaatatg gagagttgca t 281

<210> 161
 <211> 291
 <212> DNA
 <213> Eucalyptus grandis

<400> 161
 ggatacagaa gaagtgccaa gaaatgcaag gagaagtctg agaacgtcca caagtactat 60
 aagaggacca aggaaggccg tgctggctgt caagacggca agacctacaa gttcttctcc 120
 gagctcgaag ccctccacaa caccgcccgc ggggccaccg tcggaatatc aagcagcttc 180
 aagtgggtgt ggtgctgctt ctggcactgc agccctgggc ggtctctcgg taccctcagt 240
 ttcgatcggg atatcgcttc ccaaccccg cccaatctcc actgtccgcg g 291

<210> 162
 <211> 743
 <212> DNA
 <213> Eucalyptus grandis

<400> 162
 cctctttccc ctacgcgaat ggagatggaa gatcaccacc agtacaccgc ggcagatttg 60
 cggcacctca tcaacgcccg tccacctcca ccccccaccg acatccagtc gatctccccg 120
 cctgagctat tctgcggcgg cggcggccac cgggaaccca cgcagcactt ggagtcgatg 180
 atgatgggtg gcggcgggct tcacaacggc caacgccaag gccacagcca caaccatcaa 240
 caccaccacc agtttgcccg tgatcattct tctccctctt cggtcgccat ggctggtgcg 300
 gcaggggggt tagagagtga gaacggcgga aatgggagat ggcctaggca ggagactctc 360
 acgctcctcg agatcaggtc gaggtctgac tctaggttta aggaggccaa ccaaaagggt 420
 cctctttggg acgaagtttc aaggattatg tcggaagaac atgggtatca acggagcggc 480
 aagaaatgca gggaaaaatt cgagaacttg tacaagtatt acaagaagac gaagggaagga 540
 aaagcgggta ggcaagacgg taagcactac aggttctttc gtcagctcga agctctctac 600
 ggagagaacg ccaattcgaa ttccatctc caagctccat ctcttcacac ctactccac 660
 tttcatctc caccacacat caatgatatt aaccaagatg cgtctcatca tcgtcatcct 720
 catcaactgc agagaccgtg cga 743

<210> 163
 <211> 394
 <212> DNA
 <213> Eucalyptus grandis

<400> 163
 ctcaaataca caccgacaaa aaaacaagca ttgtcagaat gtcaattcca aactgatttt 60
 ttcggcacga gcgagtctga atggaaacgc gcgatccgaa cgttgtcgcc gtcgccaggc 120
 tgaggaggga agactgcgaa cgaaccaagc acgactccgc gttcgccact tggaaagggtgc 180
 tcgtaggacc tactgattgg gaagattatt cattggggaa ggaagggtgt gccagggtacc 240
 gggttcataa cctcccgaaa agcccggggc cggggatata tgagctcggc gtagccgctt 300
 ctcatgccaa attgggtcgt gagatcgcca agctcgaccc gcgatatata gtcgtggttt 360
 accttgaggaa ggcggactgt gtcaggacca gact 394

<210> 164
 <211> 1017
 <212> DNA
 <213> Eucalyptus grandis

<400> 164
 cacctctttg ctctttcttc cacacgggtc ccactttccc ctgcaactcc ccccttctct 60
 aaagcccttg cgtgcgagag atattccatg gattagggct ttccagaaag taaaacaacc 120
 tccctcagct cctcttcacc actgggtttt gagatgatct gtgtgctcgg cgccgttgat 180
 tattatgtct tattctgact tgctgaacct gctgtttgcc gtgggctgtt ggtgcaccgc 240

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| gtatattgcg | gctgccgttc | tcgagtcgct | ccgggtcttc | catactctct | gttcgttttg | 300 |
| atttcgatag | ctgttttcga | aggctaagat | gggctacgca | cagctgggtca | tcggccctgc | 360 |
| cggcagtgcc | aagtcgactt | attgctcgag | tttgatcaa | cattgtgaag | ctattggggcg | 420 |
| gacaatacac | attgttaacc | tagatcctgc | agcagagaac | tttgactatc | ctgtggccat | 480 |
| ggatatacga | gaactcattt | cattggatga | tggtatggag | gaacttggac | taggccccaaa | 540 |
| tggtggcctc | atgtactgca | tggaaacatct | tgaggaaaac | ctggatgatt | ggctcactga | 600 |
| ggagctggat | aactatcttg | acgatgatta | cttagtatct | gactgcccag | gccagataga | 660 |
| acttttctca | catgtgccag | tgcttcgaaa | ttttgtggag | catttacagc | gtaagaactt | 720 |
| caatgtctgt | gggggtatact | tgcttgattc | acagttcatc | acagatgtga | ccaaatttat | 780 |
| cagtggatgc | atggcatctc | tctctgccat | ggttcaactc | gaattgcccc | atgtaaatat | 840 |
| cctgtcaaaa | atggaccttg | tgaaaaacaa | gagagatatt | gatgattact | tgaatccgga | 900 |
| acctcgagtg | ttgttgtcag | agttgaacca | aacaatggct | cctaagtttg | agaagctcaa | 960 |
| taaagctttg | gcagaactgg | tggatgaata | tagcatgggtg | agcttcatac | ctctcga | 1017 |

<210> 165

<211> 376

<212> DNA

<213> Eucalyptus grandis

<400> 165

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| tatccaacca | ttatttatcg | tccctacagt | tttatggcca | aatcagcgc | cgtggagcgc | 60 |
| ggacattttc | tgacgggtgat | cccgcatttt | gcctggcgac | tggtgaatcc | ggcaacgctg | 120 |
| aaatatatttg | atgcaccgca | caggccgatg | tatatgcagg | aatatcttta | ttcaatcaga | 180 |
| aatcatcggt | ataccgccac | gatgcttcag | catattgctg | aagatcgtga | cgggacgagt | 240 |
| cattaaccca | gcacgcagcc | ggttgcaatt | aaattacggg | gtaagtcgaa | gacgtggcta | 300 |
| agatcgtggg | gaatatgtcc | gccaggcgca | ttttccagat | agcgatgcag | ataatcccga | 360 |
| tacataggat | gtgcac | | | | | 376 |

<210> 166

<211> 689

<212> DNA

<213> Eucalyptus grandis

<400> 166

| | | | | | | |
|--------------|-------------|-------------|-------------|-------------|-------------|-----|
| aaatagaaga | agaagaagaa | gaagaagagg | atgatgatga | cgattgatga | ggtaagagac | 60 |
| gtcactgggtc | aatgggtcatg | cgctgaagct | ttctaccttt | aatgcaagca | tcgatcgtct | 120 |
| cggcgacgtg | ctctgcttcc | tcttcaactgc | tggtcagttc | atatgcatcc | acgcgtagtt | 180 |
| gtcttcaagc | gacgcacatga | ctgattgaag | cgctctcata | ggcttgtgag | atgatccaag | 240 |
| accttttcaact | gcttgtgata | ctctttataa | aggacgaggg | atgggtcttga | tgaatcagcc | 300 |
| catctagaga | ggcttccacc | atatcacagt | ttggacttgt | gccaatgccca | aaagggttcaa | 360 |
| gcataaagat | gggagttcca | ctgcaacatt | ctagtgggtat | caaacaattg | aatgttcatt | 420 |
| ttcaagagcgc | ggacttgtgt | tctactcaat | caaccagtc | atcattcagt | gaagtgccta | 480 |
| atataggagg | aagtactgac | tgtagccaag | ccacagtttt | agaacagaca | gaacatgggtg | 540 |
| aaactgaagg | gcaatcagtg | agaggacaag | caaaatcagc | cttgtcaatg | ggaactcagg | 600 |
| athtagtctt | ccaaccttta | gaggtgtgca | tcccactcca | ctatgctgaa | ccatccttgg | 660 |
| gtgggttttat | gcccgcgtgct | tatgggcca | | | | 689 |

<210> 167

<211> 1566

<212> DNA

<213> Eucalyptus grandis

<400> 167

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| tatctctagc | ttagcttggga | gcttacctac | tgtactctgc | ttttcccccc | cctctctctc | 60 |
| tctctctcgc | tctgaacgtt | tttcagtcac | cgagccgagc | tgaactcctc | tccccctctc | 120 |
| tctctctctc | tctgggtgac | ccttcttccc | ttttctctgc | gcttccgctc | aagtgaaga | 180 |
| gggcgcgcgag | gttgtcgtcc | gagatgcgtc | ggagaaggac | ctctctcctg | atttcatgag | 240 |

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| ctgggtttcga | ctcatctctc | tctctctctc | tctctctctc | tctctgatga | gctttctctc | 60 |
| ccttggtgcg | tgatgtgtgg | aggcgccatc | atttccgact | tcgtcgagga | gcggctcgac | 120 |
| cgcgcgcgc | ccgggagctg | ccgccccgag | aggaagctga | ccctcacga | gctctggtcc | 180 |
| gagctcgacc | ccgcctccga | cctcctcagc | ctcgacggcc | ccgtggccca | aggccacccc | 240 |
| aaccctttct | ctctcgtcgc | aaaccaactc | aaccaagtga | tgaagagtga | agagaagaac | 300 |
| agtgaggagg | cgggtcacgg | acacgtgtcg | gagaccaga | agagccagag | caatggccgg | 360 |
| agccagaggg | ctcgcaagaa | cgtgtacaga | gggatccggc | agaggccgtg | gggcaagtgg | 420 |
| gccgcccaga | tcagggaccc | ccacaagggc | gtccgcgtct | ggctcggcac | cttcaagacc | 480 |
| gccgaggagg | cggcgcgggc | ctacgacgaa | gccgccaagc | gcacccgcgg | cgacaaggcc | 540 |
| aagctcaact | tctccggccc | cccggccccc | gccagccgct | cagctaagaa | gaggtgcgtg | 600 |
| gctcctgacg | agccgaagga | tgaggccgga | gctgcaggat | gtgagctgaa | ggagcggatc | 660 |
| gccagcttgg | aatctttcct | ggagctggag | ccaaccgagg | agccgctcga | gccgggcacc | 720 |
| gggcccgtcc | cggctgatct | ctggatgtct | gaagacctcg | tcactcatca | ccagcaccgt | 780 |
| ttcgataacc | agcttgctta | ttagataata | actgagtttg | atcactgatc | atgggtacttt | 840 |
| aaactcgtgt | tctagctttg | ggatgcttaa | ctatgccatg | ttttagacgt | gtaagaaccg | 900 |
| ttgtgctttc | gagtgccatt | aatacagtac | caagtatcgt | aaaaaaaaa | | 950 |

<210> 171

<211> 376

<212> DNA

<213> Eucalyptus grandis

<400> 171

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ccagcagagg | ctgctgcagt | actggagtga | cgcgctgaat | ctcagcccga | gggggaggat | 60 |
| gatgatgatg | aatcggtttg | ggccccgacg | caggccgatc | ttccggcctc | cgcagccgat | 120 |
| aaacaccacg | aagctctatc | gtggagttag | gcagcggcat | tggggcaagt | gggttgacga | 180 |
| gattcgcttg | ccgaggaacc | gaacccgact | ctggctcgga | accttcgaca | cagccgagga | 240 |
| tgcagccctg | gcctatgacc | gcgaggcggt | caagctacga | ggggagaatg | ccaggtctaa | 300 |
| tttccccgag | cttttccctc | acaaggacaa | ggctgaggaa | tccgctggtc | caagctcgtc | 360 |
| atcttcgtca | cccccc | | | | | 376 |

<210> 172

<211> 427

<212> DNA

<213> Eucalyptus grandis

<400> 172

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| tgctccatacc | ctctgtggga | cttctgggtc | aatataaact | cctcaaccca | gcttcctcct | 60 |
| attcttcatg | catcatgatc | caagatatgt | cacagggttt | taggaagatt | gatactgatc | 120 |
| gatgggagtt | tgcaaaccca | ggttttcagg | aagggaagaa | gcacttgctg | aagaacataa | 180 |
| ggaggagacg | caaactcagc | gatcatagga | caacatcgag | tagtaccggt | gcttcggatt | 240 |
| accagagggc | tggaaaggaa | gctgaacttg | aatgcttaa | gagggaccag | gaagcggtga | 300 |
| aggccgagat | cctgaaacta | agagaagagc | gggagaactc | gcagcatgag | atcaaccagg | 360 |
| tcacgcagcg | gtttcgctat | gccgagtgca | ggtgtcggcg | gatgttcctc | ttcctctcca | 420 |
| aagcagc | | | | | | 427 |

<210> 173

<211> 607

<212> DNA

<213> Eucalyptus grandis

<400> 173

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gaaacacctt | ttgaataaca | tctaccgacg | caaaccaatc | catagccatt | cggggcaggg | 60 |
| tgctcgggta | tctgattcgg | agaaacagat | gtacgaggag | gaaatcaaga | gactgcgaca | 120 |
| cgagaagagc | tcgcttcagt | tggagcttca | aagatatcag | ggagataatc | aggatgttga | 180 |
| tttccagata | cagttactac | gtaagcaatt | ccaaaatatg | gaacaaaaac | agacgcactt | 240 |
| gatcaccgtc | ttagctcaat | taatgcagaa | gccagtatct | gcttctcttt | ttacgcagca | 300 |

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| gtcggatagc | cctaccaaaa | agagaaggtt | ggcgggaactg | gatcatttac | atgactcaga | 360 |
| tgacaagagt | gggctagaga | gtttgaaatt | ccagaaagaa | aaattcaatg | gtgttccctt | 420 |
| ttctctacta | gatttggact | ccgttgagaa | actggagcag | tctttgcact | ttttagaaaa | 480 |
| tctccttcaa | ggagtcgata | acacttcagg | cgcagaacag | cacgacttcg | gagcaatatc | 540 |
| gttgcccttg | ccggcggtt | tcaccgagag | aaaggaatct | ttggatgatt | ctgacaggca | 600 |
| tatccac | | | | | | 607 |

<210> 174
 <211> 719
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| <400> 174 | | | | | | |
| atcggattga | cttgcctttg | aattcctcct | cctccgggga | aaattccaca | ccgaacttcc | 60 |
| gctttggggg | ggccgccgga | aatctagggc | tccgctccgc | cgctcctcctc | cgtcgtccgc | 120 |
| aggtccatct | cggtttcaaa | tgctgttata | tttttgatcc | aacatattgt | cggagagcaa | 180 |
| tagaatctgg | cgttatgcag | ccaaaatcta | aaatttcaaa | cggggtagat | gctcatccac | 240 |
| atagcatcca | gactagtgc | gtattcactg | aaccctgggtg | gcgtggctat | aatactattt | 300 |
| ccccagctga | cccaggaaga | aacgaaaacc | atgcgccttt | aggatgcata | aatggtggtt | 360 |
| cagagtccaa | tgggtgtcaa | tcacagtcaa | atgaggaaag | ggttgaggaa | gatgatgatg | 420 |
| acgataatgt | caaaggatca | gggaaccctg | catgttcagg | agcagttgga | aatcaaggac | 480 |
| aagggcctca | aaacgggcat | ggtgctccca | ctattattac | aatgcgtgat | gatggccttg | 540 |
| cacaacctcc | ccagctagag | cttggtgggc | acacaatcgc | atgtgcatct | aatccttatc | 600 |
| aagatccata | ttatgggggg | ttgatggcac | aatatgggca | tcagtcaatg | gcttatcctt | 660 |
| ttgtcggtat | tcctcatgct | aggatgcctc | tgccccttga | cctggcacia | gaaccttgt | 719 |

<210> 175
 <211> 570
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 175 | | | | | | |
| actggggcca | atgagaagga | ttctgtgatg | gaaattacat | ttcacgtgcc | caactccaac | 60 |
| acccaatttg | ttggtgatga | aaatcgtcct | cctgctcagg | ttttccgtga | cagaatcatg | 120 |
| tcagtggcag | atgttggggc | tggaggtgaa | gatgctgttg | ttacatttga | gggaattgcc | 180 |
| attcttactc | caaggggtcg | ctacagtgtt | gaacttcac | tgctattctt | gcgacttcaa | 240 |
| ggacaggcaa | atgactttta | aattcagtac | agcagtgttg | ttcgcttatt | tttgctgcca | 300 |
| aagtctaacc | aaccacatac | atttgtttatc | atcactcttg | atccaccaat | tcgcaaaggg | 360 |
| caaactttgt | atccgcacat | tgtgatgcag | tttgaaaccg | actatgtggt | tcaaagcaca | 420 |
| ttgtctatga | atgatgattt | atttaacacc | aagtacaagg | acaagctgga | accatcttat | 480 |
| aagggactca | ttcatgaagt | gttcaccacc | atcttgccgg | gtttatccgg | tgccaaagtc | 540 |
| acgaaaccag | gaaaattccg | tagttctcaa | | | | 570 |

<210> 176
 <211> 754
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 176 | | | | | | |
| cttgaacaa | gtggtaatcg | cctggcaagg | gcaatctctg | atgccgatac | ttctagtgc | 60 |
| gcagctctaa | tggatatgct | ggagcaaagt | gtgtcggtta | tgggcgaccc | aattcagcgt | 120 |
| cttgggtgctt | acctcttgga | agggttagg | gcgaaattga | aattttccgg | gagcataatt | 180 |
| taccgaaagc | tcaagtgcga | agaacctacg | agctcagaat | tgctgactaa | catgcagggt | 240 |
| ctctatcaga | tctgccccta | ctggaagttt | gcatatgtgt | ccacaaatgt | catcatcacc | 300 |
| aaagccatgg | aaaacgaaca | gagaattcac | attgtcgatt | tccagattac | acagggcagc | 360 |
| cagtgggtca | ctttcatcca | ggccctcgca | cagaggcctg | gtggccccc | cctcctccgc | 420 |
| atcactggca | tcgacgattc | tgattcagtt | catgctcgtg | gggcgggact | ggagattgta | 480 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gggcagaagc | tttcggaaat | cgcagagtca | tgtaacgtgc | cgttcgagtt | ccatgatgca | 540 |
| gccgtttctt | tatctgaggt | tgagctacag | aatcttatga | ttcggcctgg | ggacgctttg | 600 |
| gcagtgaact | gtccttacat | attgcatcac | ataccgatg | agagtgtgag | cactcagaat | 660 |
| caccgagacc | gggtgttgag | actgatcaag | agtttgctgc | cgagagtggg | gaccctcgtg | 720 |
| gagcaagaat | ccaacaccaa | cacatcctca | ttct | | | 754 |

<210> 177

<211> 525

<212> DNA

<213> Eucalyptus grandis

<400> 177

| | | | | | | |
|-------------|-------------|------------|-------------|------------|-------------|-----|
| ggaaattggg | atgaacctac | gaaggaagaa | gttaatgaac | cagctgatat | agctgaagca | 60 |
| aagactgtca | gtgattcaga | ggaagcaaaa | cctaattgcta | agagaaaaca | gcctgagaag | 120 |
| gaagcttctg | agaaggaagc | ttcaaagaag | gaaccaaaca | aaccacccaa | tagttgggtt | 180 |
| gatttgaagg | ttaacacaca | tgtgtatgta | actgggttgc | ctgaggatgt | cactatggag | 240 |
| gaagtgggtg | aggttttttc | caagtgtgga | atattaaagg | aggatcctga | aacaaaaaag | 300 |
| cctcgtgtga | agatctatgt | tgacaaagaa | actggaagaa | aaaagggaga | tgcacttgtc | 360 |
| acttatttaa | aggagccctc | agttgcccta | gctatccaaa | tattggatgg | agcacctttt | 420 |
| cgcctcgggtg | gcaagggtacc | gatgtcgggt | agccaagcta | agtttgagca | gaaagggtgat | 480 |
| aaatttattt | ctaaacaagt | ggacggcaag | aagaaaagaa | actga | | 525 |

<210> 178

<211> 978

<212> DNA

<213> Eucalyptus grandis

<400> 178

| | | | | | | |
|-------------|-------------|-------------|------------|-------------|------------|-----|
| ggccatgatg | aaaacgggtca | tggaactggaa | aatggcttca | cgccagtagt | tgagagcgat | 60 |
| gctgaacaca | cttagccaga | agatgttcaa | aggcaaacct | tcttctctca | gaggctaaaa | 120 |
| gatgttccac | ccatggcttc | ttaatctgat | ccagatgaac | catggagaaa | caaaatcgaa | 180 |
| gtctcatcaa | aagggtattt | gggaaggagg | cattatacaa | aatcattgca | ttggtttgct | 240 |
| actgcaggga | cataaatgct | gtgggttatat | tatttagcat | gcgccgtttc | tctgtaatta | 300 |
| cgagctgcct | tttgttcatg | ctagactttt | gaacaactgc | ttttgccttt | cctatatgaa | 360 |
| ctacagatcc | tgattgacct | aagtaatgac | aaggcaaccg | ttcttacgga | caaaatccag | 420 |
| gtgctgaagg | atttaactac | ggaagttaac | aaattgaaag | ctgaatgtgc | agctcttatt | 480 |
| gaagaatctc | gtgaggagaa | gaatgagctc | agagaagaga | aatcatcttt | aaaatctgag | 540 |
| gttgaaaatc | ttaatgtcca | gtaccagcaa | aggacgaggg | ttatgtaccc | ttgggctgcc | 600 |
| atggatccat | cgcgtcgtcat | gggtccagcc | tactcatatc | cagggtccaat | acccgtcact | 660 |
| ccagggtccaa | tacccatgct | ctcacaactt | cagcctttcc | ctttctttgg | aaatcagaat | 720 |
| gcaagtgcta | ttcctgctcc | gtgttctacc | tttatcccaa | attcaatgcc | tgccaatccc | 780 |
| acatttgaac | agcagtcaac | ccaatatgct | tccacttctc | acgtgtcaaa | taaaaaagac | 840 |
| tccaaaagca | ggtcttcaga | tcatcaaagg | ggcagcattg | cagagcaaga | cgaagattca | 900 |
| aataacgtgg | caacagacct | tgaacttaag | atgcctggaa | catcatcaca | tcaggacttg | 960 |
| acgtccggag | aaaagaag | | | | | 978 |

<210> 179

<211> 566

<212> DNA

<213> Eucalyptus grandis

<400> 179

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| catcctatga | agccggaatc | tggtgaagta | ctgaatttcg | gagatagtgg | gagcgggaagg | 60 |
| ttgctttcga | gtcattcaca | ggtcgcagtt | gcagaggagc | ctctgaacca | cgtcgaggcg | 120 |
| gagaggcaga | ggagggagaa | gcttaatcag | aggttttacg | ccctcagggc | cgtgggtcca | 180 |
| aatgtatcaa | agatggataa | ggcttcactg | ctccaagatg | cggagtctta | tatcagggag | 240 |
| cttaacatga | acctacaagc | tgacagagtct | gataaggagg | atgtgaagaa | gcagttggat | 300 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gaactaaaga | agcgatcatc | ggataaagaa | tgtatcccgg | tggatcaaga | tcgcaagatg | 360 |
| gcaaaaccta | cggaagtag | gtccactggg | gtggcaatcg | atgtgaagat | aatgggttg | 420 |
| gatgcagtg | ttcgagtaga | gagcgccgg | aaggatcatc | ctgcagcaag | gttaatggtg | 480 |
| gctcttcaag | aattgaactt | ggagttgcag | catgctagt | tttctgtggt | gaacgagctc | 540 |
| atgatccagc | aagccacagt | taagat | | | | 566 |

<210> 180
 <211> 521
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 180 | | | | | | |
| gcaacttttc | gagctccgtc | aggaggaaaa | aaaaataata | aaaaaaagag | atgatgctcg | 60 |
| gagagcctca | ccgtcctcct | aatccgacga | tcgacgttcc | tccttgcccg | atcctggacg | 120 |
| atccgacgga | cgacgcccgt | cctcactctc | cgtactcccc | ttacacgctc | aatgctggct | 180 |
| acggcgccgg | ctgcgactcc | tctccctccg | ccgcccggcc | cggccacttc | caggacgtca | 240 |
| tggcgccgct | ccggcggttc | ctgcccgcga | accgccccga | cacggacccg | gaccgggata | 300 |
| tgacgtcctc | ccgcgaggcg | gacttcccca | tggacgtcta | ctcctgcgac | aacttccgca | 360 |
| tgtacgagtt | caaggtgagg | cggtgcgcgc | ggggcgccgt | gcacgactgg | acggagtggc | 420 |
| cgtacgcccc | tcccggcgag | aaggccccgc | ggcgggaccc | gcggaagtac | cactactccg | 480 |
| gcaccgcgtg | cccggagttc | cggaaggggg | gctgccggaa | g | | 521 |

<210> 181
 <211> 449
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 181 | | | | | | |
| ccgacgagcc | ctccacctcc | gccaccaact | ccggcgccgg | ggcgcccgcc | gcgagctcga | 60 |
| gcggggggcg | gaggtcgcac | gagtgtctca | tatgccacaa | gtccttcccc | accggccagg | 120 |
| ccctggggcg | gcacaagcgt | tgccactacg | atggcgccgc | cagcggtccc | gccaacagcg | 180 |
| gggtcaccac | gtccgagggc | gtgggggtcc | cgcccccgcc | cgcgctcgga | tacgacagcg | 240 |
| gccgcgcgca | cttcgacctg | aacgtgcccc | cgctgcccga | gttcccagacc | gggttcatcg | 300 |
| tgtcggggcg | cgacgagggt | gagagcccc | accctcga | gaagccgcgc | ttctcgacgc | 360 |
| ccctgaagat | caagctctct | ccagaacagt | gaaatctttg | cctgtgcttt | taggattagc | 420 |
| gcttggtaat | tgatttagct | agggtttt | | | | 449 |

<210> 182
 <211> 610
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 182 | | | | | | |
| ctctctcttc | tttctctctc | ttctgcgtgc | gcgatcgcca | ttgaagaagc | tctgcgcgag | 60 |
| acctcggaag | gcggaggagg | aatcccccca | cgcgatttgc | catccgccgc | cgccgccgcc | 120 |
| ggccgccgct | ttcgttctt | attgcaattc | tcaagataga | tccatggcat | tcgagcagta | 180 |
| ctttgcccag | gagtggaggc | ccatccctgg | accagctatg | gattctggaa | gtagcgatgg | 240 |
| ctgtttcgac | tgcaacatct | gtctagactt | tgcgatttag | cctgtggtca | ctctctgtgg | 300 |
| tcacctctac | tgctggccct | gcatctacaa | atggctccac | gtgcaaagcg | cctcgcttgc | 360 |
| ttctgatgag | caccacagct | gtcccgtctg | caaggctgaa | atatcccaca | cagccatggt | 420 |
| ccctctctat | ggccgtggcc | aaagctccaa | agagtctgat | ctgcaagaca | aggcactcca | 480 |
| actaggaaca | attgtacccc | cgagaccagc | ggcttggtgg | atccaagctc | tcgcctctac | 540 |
| aacaccccg | agcggctcag | agctccccta | ccgtaatcct | taccaaatac | cgtactacag | 600 |
| cgccaattcg | | | | | | 610 |

<210> 183
 <211> 767

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| agtcctcaac | acgaggggca | tggtggtcgg | ctacatcaag | cggaagctg | ccaaagtctt | 300 |
| ggccccacta | atagactctc | agctgatctc | cgtctacgcc | attgtgcccc | aagttcctag | 360 |
| ggtcgagaag | ctgtttttca | tcaattgcca | agtgcgagta | ttagcgaggg | atgatgactt | 420 |
| cgagcacgtg | aagtcaacga | tcttggaagg | caagttgatg | ctcaccgccg | cggtggggaa | 480 |
| ggaggtgaga | ggcgtgaacg | agagtttcac | gttggtcggc | caggggtgctg | agaaga | 536 |

<210> 190
 <211> 2444
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| <400> 190 | | | | | | |
| ctctcctctt | tcctctctct | cctttctctc | tctctctctc | tctcgaggat | aaacagagga | 60 |
| cgcgaaaagg | aattgactcg | gggggtggga | gtcgcgccag | gagcttcttc | cctgcgctga | 120 |
| gatctgatgc | tctgatttct | ccagtgtaac | gggaaccag | caaattccagc | aacctcgtgc | 180 |
| gtcggagtcg | gtgttcaccg | cttgttttcg | gattccgatc | ttataagttt | gtgagggttt | 240 |
| tgtggttttt | tcgtggaaga | tctatatcag | aaaatgatga | tgttcgagga | tatgggaatc | 300 |
| tgtggcgatc | tggacttctt | ctctgcccct | ctcggggagg | gacatggggt | tgctccgcaa | 360 |
| actgagccag | agggccaccg | ggaggatgat | tattccgatg | aagagatcga | tgtggatgag | 420 |
| ctcgagagaa | ggatgtggag | ggacaagatg | cgtctcaagc | ggctaaagga | gcagaacaag | 480 |
| gggaaggagg | gagttgatat | cgcgaaacag | cggcagtcct | aagagcaggc | aaggaggaag | 540 |
| aagatgtcga | gagctcagga | tggaaattctt | aagtacatgt | tgaagatgat | ggaggtctgt | 600 |
| aaggctcagg | gttttgtgta | tggaaatcatc | ccagaaaagg | gaaagccggt | taccggggca | 660 |
| tcagacaatc | taagagaatg | gtggaaggac | aaagtcaggt | tcgatcgaaa | cggtccagcc | 720 |
| gccatagcca | agtaccaagc | cgatcattcc | gttcttggga | agaatgatgg | atgcaacccc | 780 |
| atcggaccta | ccccgcacac | tctgcaagag | cttcaggaca | cgacccttgg | ctcgcttctg | 840 |
| tcagcactca | tgcagcactg | tgacccccct | cagaggcggt | tcccattgga | gaaaggcggt | 900 |
| cctcctccat | ggtggcccac | tggaaacgag | gactggtggc | cccagctggg | tttgccgaag | 960 |
| gatcaaggag | ccccgcctta | caagaaacct | catgatctta | agaaggcatg | gaaggtagggt | 1020 |
| gttctcacgg | cggtgatcaa | gcacatgtct | cctgatatcg | ccaagatacg | caagctcgtg | 1080 |
| aggcagtcca | aatgcttgca | agataagatg | acggccaagg | aaagtgtctac | ttggctggct | 1140 |
| ataataaacc | aagaggagtc | tttggcacga | gagctttacc | ctgattcatg | cctccactg | 1200 |
| tcctcatctg | gagggagcgg | gtccttgggtc | ataaatgact | gcagtgagta | tgatgtcgaa | 1260 |
| gggatggaag | acgagcccaa | ctatgatgta | caagagcgca | agcctgagaa | tctcaaccca | 1320 |
| ccatcccatc | tggggctgga | gagaatgaga | ggtccttttg | tccagcaatc | gcctttccaa | 1380 |
| atgaaggagg | aagttgtcag | caacttagat | atggcgcgga | agaggaagcc | gtgcaatgat | 1440 |
| ttgaatatgg | tgatggatca | caagattttc | acctgtgagt | tcttgcatg | cccttatagt | 1500 |
| gaactgaggc | tgggggttccg | tgacagaacc | tcaagggaca | atcaccagct | gagctgccct | 1560 |
| tacagaagca | attcttcaga | gtttggcggg | tcaaacttcc | atgttaatga | ggtcaagcca | 1620 |
| gtgattttcc | ctcaagggtt | tgtccagtcc | aagcccatga | cttcaacggg | caattcagca | 1680 |
| tcaaccccct | ttgatctatc | agggcttggg | gttcttgaag | atgggcagaa | agtgatatct | 1740 |
| gatcttatgt | cgatctacga | taccagcatc | caaggcaaca | agaacatgaa | tccgcggaat | 1800 |
| gatgcgatca | tagaagacca | gagccgtcct | cagccaaagc | ttcaacaaca | aaacgagttt | 1860 |
| gtgggatcat | tcttttcagca | acccaatgct | tccgccaatc | atcacatggt | ctcccgagag | 1920 |
| gacattcagt | tcgaccggtt | caagaccatg | aattcttctg | tcgaggccaa | caaccacaac | 1980 |
| cacgacaacc | tacagctcat | gttcgggtct | ccattcgatt | tgctgtcttt | cgattttaag | 2040 |
| gaggagtgtg | caggtggggg | catggatccc | ctgccgaagc | aggatgtcac | tatatggttc | 2100 |
| cagcaatgat | ttctgctgct | tcagcttctc | ggcgcttctt | gggaactgta | tatttctctg | 2160 |
| aagagagatc | tatatactta | actgtgggtc | cttgtttagat | cgagttaaag | ttttcttggc | 2220 |
| caaggctctt | gcttagctta | tgtattctct | cgaactttgt | taggtgtaga | tttagaaagt | 2280 |
| ttaggcaggg | gttttagatg | ggaaataaga | tatttagacaa | ggacccatga | ctagccctgc | 2340 |
| ttgctgctga | atatataaaa | atgttgtctg | atcaagtgat | tattctacta | gactgtccta | 2400 |
| taaataagtg | aggtgcgttt | tcttttaaaa | aaaaaaaaaa | aaaa | | 2444 |

<210> 191
 <211> 473
 <212> DNA

<213> Eucalyptus grandis

<400> 191

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cagcaagcaa | aagaggaaac | cagaaaaaag | cagacacctc | ggtttcaogt | tctctactac | 60 |
| agaattccgg | agatggtgaa | gagagacaga | gaggacacgg | aggtcgaagc | cctggccctg | 120 |
| gccaaactgt | tgatgtcctc | ctcccagatc | ggcaagagca | ccgactcgcc | atgggtgaac | 180 |
| cacaaatccc | ggcctacgga | gcggatgttc | gcgtgcaaga | cgtgcaaccg | cgagttttca | 240 |
| tccttccagg | cactcggagg | gcacagagcc | agccacaaga | agccgaagct | gtccggcgat | 300 |
| ctcttccacc | tagggcgctc | cgcggattcc | tcaccggcca | agccgaagac | gcacgagtgc | 360 |
| gcgatatgcg | gcctcgagtt | cccgtttggc | caagcccttg | gcggtcacat | gaggaggcac | 420 |
| agggccgcca | tggcggagag | cttggcgacg | gccgaaaagc | ctgtgccggt | gtt | 473 |

<210> 192

<211> 468

<212> DNA

<213> Eucalyptus grandis

<400> 192

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| caaaaaagtt | acggttggat | tgcggtaaag | aaatggtgat | ggatatttca | aatgacgacc | 60 |
| gctatcttaa | tgaagagatt | ggtggtccga | aggatgcact | tgatgatgga | actcagccta | 120 |
| ataacaagag | gaagcgcggt | agagcaccac | agagggctat | gaaggctgaa | agggaaaagt | 180 |
| taaagcgtga | tcattctgaat | gagcttttct | acaaactggg | tagtcttctt | gaattgagtg | 240 |
| agccgaacaa | cgggaaggcc | tctataataa | atgagactat | ccggctttta | aaggatatga | 300 |
| tttctcagat | tcaaagtcta | agaaaggaga | acacgacttt | gttgtccgaa | tctcattatg | 360 |
| ttgcagcaga | aactaatgag | ctgaaagacg | agaattttgc | actcgaagct | caaatcaaga | 420 |
| atgtacaaaag | ggaattagaa | gacaagttag | gccattctaa | gcccagacc | | 468 |

<210> 193

<211> 968

<212> DNA

<213> Eucalyptus grandis

<400> 193

| | | | | | | |
|------------|-------------|------------|-------------|-------------|-------------|-----|
| gagtgtctgc | cacttctaga | tatgaccacg | cagcctcctt | ggcaggaatt | ggttgcaact | 60 |
| gatctacatg | gcaatgaatg | gcattttccg | catatttttc | gagggcaacc | tagacgccac | 120 |
| ctactcacta | ctggatggag | tgtctttgtg | agctccaaga | agttgatagc | tgggtgatgcc | 180 |
| tttatatttt | tgaggggtga | agatggagaa | ttgcgcgtcg | gtgttaggag | attaatgaga | 240 |
| cagcaaagta | acatgccatc | ctctgttata | tctagtcaac | gcatgcatct | tgggggttctg | 300 |
| gccactgcat | ctcatgccat | tgcaactgga | actctctttt | ctgtattcta | caaaccaaga | 360 |
| acaagtaggt | cagagttcat | tgtgagtcct | aataaatacc | ttgaagcacg | ggcccacaag | 420 |
| ctatccattg | gaatgagggt | taaaatgaaa | tttgaggggtg | aagaagtttc | agaaagaagg | 480 |
| ttcagcggca | caatcattgg | tgtaggagac | agcatgtcat | ctggatggac | taattctgaa | 540 |
| tggagatcct | taaaaggtcca | atgggacgaa | ccttcatcaa | tcatgcgtcc | cgacagagtt | 600 |
| tcatcatggg | aattggagcc | acttgttgtg | actgctcctt | ctaattccca | acaggtacag | 660 |
| aggaagcgag | cacggccaac | tgttttacca | tcatcatcag | tgcaagaact | ttctgcgttc | 720 |
| ggtggacct | aagctcctga | gtattcttca | gattttctac | atggcgattc | ccagagggga | 780 |
| agagatgtct | atctctctcc | caagttttct | ccatctgcta | ggtcaaaaatc | tttaaattac | 840 |
| aatggaaatg | gttcaccagc | tgcattatct | ggctacacag | tcaactggcc | tagtcatatg | 900 |
| gaaactatta | ctgatccatg | tacaccagtc | aatgggaaag | aatctagtga | aaagagagag | 960 |
| agcgggtgg | | | | | | 968 |

<210> 194

<211> 345

<212> DNA

<213> Eucalyptus grandis

<400> 194

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgccgcctg | cagctttccc | ctccgtgtcg | acacgacgac | gactccgcgc | ccgtccccc | 60 |
| ctcgcgtcgt | ctctccttct | ctcgcctcgt | atatatctct | cgcccccg | caaaaaagg | 120 |
| agaaatctga | agagagggga | ctgaaattag | gttattgaga | aggattcttc | ccgtgaccaa | 180 |
| tcttttgag | aaagatggct | tctcaattta | atttcaaagg | cataaccgat | gcacgcaag | 240 |
| ctgaaggagt | agctgggaaa | tcacacggaa | atcactcttt | aactcggcag | ccatcaatat | 300 |
| atgctttgac | ttttgatgag | tttcaaaaca | catgggggtg | gcttg | | 345 |

<210> 195
 <211> 456
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 195 | | | | | | |
| gagacttccc | ctagctcacc | ttcactcacc | accaccaccg | ccccgcgcc | cgccgcgcgc | 60 |
| gccgcgcgcg | caaccacctc | atcctcctcc | tattcctccg | ccgtggcggg | cgccgcgcaca | 120 |
| acagcaacaa | cctcctcctc | ctccacctcc | tcgaccgggt | cggtaccggc | gctagaaccg | 180 |
| agcaaaaagaa | gcgaggattg | cacttctcaa | aaggggcccg | ggaagtcccc | gagcccgggc | 240 |
| gccaccccg | aggagccggc | cggaagagg | cacaaggccg | ggggctccgg | cgagcaccgc | 300 |
| acgtaccgtg | gggtccgaat | gcggaactgg | ggcaagtggg | tgtccgagat | ccgggagccg | 360 |
| aggaagaagt | cgagaatctg | gctcgggacg | tacccacgg | cgagatggc | cgccggggcc | 420 |
| cacgacgtgg | cggcattggc | cataaagggc | agcttc | | | 456 |

<210> 196
 <211> 569
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| <400> 196 | | | | | | |
| aaaagcagaa | aaagaaaaaa | gagagcaaaa | aaaaggcaat | cgagagcagc | ttctccattt | 60 |
| cctttcttct | cttccgctcg | atccatttct | aaatccgcag | agaattgtcg | agaagagacg | 120 |
| agacgatgtt | cccagacccc | aaagtcgacc | cggcctccgc | cggaaccgtc | gtgatccgcg | 180 |
| aggtgtgggc | ccacaacctc | gagtcgag | tcgacctcat | ccgcgacgtc | gtcgacaccc | 240 |
| accccttcat | ctccatggac | accgagttcc | cgggcgctcg | cttccggccc | cctcctcccc | 300 |
| cctccgcccg | cgggcactac | cgccgcctcc | gcccctccga | ccactaccgc | ctcctcaagt | 360 |
| ccaacgtcga | cgccctcagc | ctcatccagg | tcggcctcac | cttctccgac | cccgcgggga | 420 |
| acctccccga | cctcggctgc | cccggcggcc | cccgcctacat | ctgggagttc | aacttccggg | 480 |
| acttcgacgt | cgcccgcgac | gcccacggcc | cggactccat | cgagctcttc | cgccgcccag | 540 |
| ggatcgactt | cgagcgggaa | cgggcggag | | | | 569 |

<210> 197
 <211> 1007
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| <400> 197 | | | | | | |
| ggaaaccatc | tgaaggcgt | ggtgggcctc | ggggctcctt | ccgtggaagt | ggaggtcgcc | 60 |
| gtggcggttt | taacaatgga | gaagctggcg | agggggagcg | tccaagaaga | acatttgaac | 120 |
| gccgcagtgg | cactggacga | ggaaacgagt | ttaaaccgaga | tggagctggt | cgtggaaact | 180 |
| ggggaactcc | tactgatgaa | attgctccgg | agcctgaaga | acctgttgtg | gaagttgaaa | 240 |
| aaaatgtggg | atctgagaag | cagttgggtg | atgaggaggc | tgcagatgct | agcaaagaga | 300 |
| atcctttgaa | tgaaccagag | gaaaaagagc | ctgaagataa | ggagatgaca | ttagaagagt | 360 |
| atgaaaagg | ccgcgaagag | aagaggaagg | cattgcttgc | attgaaggct | gaggaaagga | 420 |
| aagtggaggt | ggacaaagag | ttgaagtcca | tgcaacaact | ctctagcaag | aaggaaaacc | 480 |
| atgacatctt | tatcaagctg | ggatccgaga | aggacaaacg | caaagaggct | gctgagaaa | 540 |
| aagagagagc | cgagaagtct | gtcagcataa | atgagtttct | aaagcctgct | gaaggggaga | 600 |
| gatactacaa | cccaggtggc | cgtgggcgag | gccgtggccg | cggtgccaga | ggtggttatg | 660 |
| gtggtggagg | tggtgggtgg | tatggtagag | atgcagctgc | tccttcgatt | aaggatcctg | 720 |

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|------|
| gccagttccc | ctcccttggg | gggaaatgag | gttttaaccac | tgcatacttc | aagctgagtt | 780 |
| acttcagct | tggagttggt | gtgatcttcc | aggataatca | gttattaacg | ggaattacat | 840 |
| ttttcctgta | acagaaacct | ttgatattat | tcagttcttt | ttgagtgtaa | attttagttt | 900 |
| ctccatggat | ttactttgct | tttcttttga | ctcacttcag | ttttgattgt | gttagaagag | 960 |
| aatgaattaa | gccttttcta | aaaaaaaaaa | aaaaaaaaaa | aaaaaaa | | 1007 |

<210> 198
 <211> 390
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| <400> 198 | | | | | | |
| cccattttctt | ccttggctcc | gttctgttgc | ttctctcttc | tgtcttcgac | acttcagctc | 60 |
| gtgcgagccc | aaaaatcgat | cctttttctgc | ttccttttgc | ctctgttcca | gctgtggtcg | 120 |
| agtaagcagg | agtcaattga | tactgggtcg | atctgggtcg | caacttttgt | tgggaagttg | 180 |
| aggaatctga | ttgagagaag | aggtagatct | aaaggatcaa | aaggatgtca | tttaccggca | 240 |
| cccaagttaa | atgcaaggct | tgcgaaaaga | cagtttatcc | tgttgaacag | ttatctgcgg | 300 |
| atggggttgc | ataccacaag | tcttgcttca | agtgcagcca | ctgcaaaggc | acattaaagg | 360 |
| tgtgccaat | ttttcaattg | gtttacaatc | | | | 390 |

<210> 199
 <211> 586
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 199 | | | | | | |
| tgttttcttc | ctactctgtc | actctcaact | tcaactctac | tctctctctt | ggtctctcct | 60 |
| caccatcttc | ccagggtccc | cgcgcgggta | tcgctgcccc | gaccattctc | gccgtctgct | 120 |
| caataataat | cggagcaaa | atgattgate | tcaacacggg | ggaggacgac | gaaacgcgct | 180 |
| cgctcggctc | ctccccctgc | tcttctctgt | cctctgccat | aagcgcttcg | aatattaact | 240 |
| ccaaccctgc | gtacccaact | tgcgtctctt | ctctctctgc | ctcgtgctct | cccttgctct | 300 |
| tggagctgtg | gcacgcctgt | gccggggcct | tgatttgcgt | tcccaagagg | ggctctctg | 360 |
| tggctactct | ccctcagggc | cacttgagac | acgtctctga | ttttccact | tccgtgtttg | 420 |
| atctcccttc | ccaaattttc | tgtcgtgttg | ttgatgtgaa | gctccatgcc | gatgcgagca | 480 |
| cgcgcgagct | ttatgcgcag | gtttccctgg | ttctgaaag | agagcaaatt | gagcataaat | 540 |
| tgcgcgaagg | ggacaacgaa | atagacttgg | atgaggatga | aattga | | 586 |

<210> 200
 <211> 619
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 200 | | | | | | |
| cagaagcgac | cattaacgct | gtctctctct | ctttctctct | cctcctcttc | ctcctcctcc | 60 |
| tctcctctgc | tttttcttga | aacaatcgat | aatccttctc | tccatctttc | ctcctcctcc | 120 |
| cccccttgaa | atcccgaatc | caccaccaca | acccccacc | gccacctgct | cgttgggtaa | 180 |
| tctctctttt | gcttctggag | aggggaagtga | agtgatctcg | gatcagctga | ctttggagaa | 240 |
| tgatcctaaa | gctgggtatt | ctacattgag | atcatcttta | agagcgctgt | ggttctctga | 300 |
| tggcatctca | tccatcaaat | cattcgtgtg | ggcgccctca | tcaagggtgc | tttgctgatg | 360 |
| ctttatacaa | agagctgtgg | catgcctgtg | ctgggcctct | tgtaaccctt | cctcgagagg | 420 |
| gagagcggtg | ctattatttt | ccacaagggtc | acatggagca | gcttgaagca | tcaacaaaca | 480 |
| gaggggttga | acagcaaatg | ccttctttcg | atctgccctc | taaaattctt | tgcagggtag | 540 |
| tcaatattca | gctccggggc | gaacctgaaa | cagatgaagt | ttattcacag | ataactttgc | 600 |
| tacctgaacc | tgaacaaaa | | | | | 619 |

<210> 201
 <211> 376

<212> DNA

<213> Eucalyptus grandis

<400> 201

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| tttaaatggcc | ttgacgcagg | ggaggggaga | ttttctgaac | ttggggagat | ggtagaatag | 60 |
| ctgccgaggt | gtcaactcat | gtcagaattc | tgactgatct | ggggatcttg | ctctcaaaga | 120 |
| ggatttctaa | gagcagtatc | tcaacttggc | atacgttcag | caactggaaa | atagtagggt | 180 |
| caggcttatg | caactggaac | aggagcttca | acgagcacgc | cagcagggtg | tatttggttag | 240 |
| ttctggaaat | cctgggggatc | tcagtcataa | catggctgcc | attggcaatg | gggccatggc | 300 |
| ctttgacacc | gactatgccc | ggtggctcga | tgagcatcaa | cggctgatca | atgacctaa | 360 |
| atccggagtg | aacttc | | | | | 376 |

<210> 202

<211> 743

<212> DNA

<213> Eucalyptus grandis

<400> 202

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| tttttttttt | gtatataatc | tctttatttc | tagttaggga | aaattcagaa | agaagccgtg | 60 |
| aaggaacttc | atccaatggc | gatggaaaat | ctgaagtgca | aggaaagggt | gctggggagg | 120 |
| tggatgctgc | ttctgagaat | gtgtccgggtg | gagccatcga | acgtcccaga | gccacaggaa | 180 |
| aattggctgc | gcctgtaaac | tcgcccagca | tgtcctcatc | attggacctg | aagaattctt | 240 |
| gcatggatgc | aaatgccaac | cctgtgagca | ttttgcaacc | tgggtgtagt | ccacctgaag | 300 |
| cctggttaca | gaatgaaaga | gaactgaaaa | gggagaggag | gaaacagtcg | aaccgtgaat | 360 |
| ctgctagaag | atcaagactg | aggaagcagg | ctgagactga | agaacttgcc | aaaaagggtg | 420 |
| attctctgag | tgccgagaat | agggtcttta | aatctgaaat | tagtcaacta | accgagaact | 480 |
| cggataaatt | gaggctagaa | aatgccacat | tgatggaaa | actggaaaat | gcacaggggag | 540 |
| tggaaaaggc | ggttgaatca | ctgggtaaat | tcaacgacaa | tgggcttctc | tcggacaaaa | 600 |
| cagagaactt | actttcaagg | gtaaacaact | ctggtgccgt | tgatcgaaga | agtgaagatg | 660 |
| aggagaaaat | ttatgaaagg | aagtcgaatt | cgggtgccaa | gcttcaccaa | cttttggtatt | 720 |
| caaaacccag | aaccgatgcg | gtg | | | | 743 |

<210> 203

<211> 435

<212> DNA

<213> Eucalyptus grandis

<400> 203

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| ttttctctct | cgccccacca | cctgaagatg | gaggtcgctc | cacaggcgga | gcatcaccag | 60 |
| aaccaccacc | accaccacca | ccagtatcac | caccagccgc | agcaagggga | accgggaagc | 120 |
| tactttctct | cggctcctcc | tccgccacca | cactatagca | gctctggcct | gtgttatggt | 180 |
| ggtggcggtg | gagacaacaa | caatgggtggg | taccttcaact | ctcctctttc | tgatcatgccc | 240 |
| ctcaagtccg | atgggtctct | ctgcatcatg | gaagcactca | caagatccag | accccaagga | 300 |
| ttaggtcaag | gttcaacgcc | gaagctggag | gacttttttg | gtggtgcaag | tgcaacagtg | 360 |
| acagcaacga | caatgcctct | cagcttggac | agcttgtata | gctaccaaca | gagtgcgcgac | 420 |
| ccagagaaac | agtcg | | | | | 435 |

<210> 204

<211> 662

<212> DNA

<213> Eucalyptus grandis

<400> 204

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gcgaaacgca | gagagagaaa | gtagagagag | agagagagac | aagtattccc | tctcagtcac | 60 |
| cccagccgac | gatoctcccg | cagaccgcct | cctcccccg | ccgttccgat | cctcccgccg | 120 |
| acgcgacgac | aatgggtgaag | cagagcggcg | gcgccggcga | tcggggcccc | ccgctggcgc | 180 |
| cgttcctcag | caagtgtctac | gagatggtgg | aggacgaggc | gaccgacccc | atcatcgctg | 240 |

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gggggagcgc | cggcgacacc | ttcgtcacat | gggacatcac | tcaattcacc | ctccagttgc | 300 |
| cccccaacta | cttcaagcac | tccaacttct | ccagcttcat | gcgccagctc | aacatctacg | 360 |
| gtttcagaaa | agttgattca | gacggttggg | aattcgcaaa | tgatggattc | atcagagggtc | 420 |
| aaaagcatat | gttgaagaat | atacgcagga | ggaagaatgt | tcagggttg | gatcagaaaa | 480 |
| aatcattgca | gaagcaggat | aattccggtg | aagaagtcga | taaaattaaa | atagatgggc | 540 |
| tttggaaga | agttgaaaat | ttgaagattg | ataagacagt | cctttcgctg | gagttaggta | 600 |
| aagttagaca | gctccaggaa | acttcagata | ataaattggt | cctcctgaga | gaccgtgttc | 660 |
| ag | | | | | | 662 |

<210> 205
 <211> 694
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| aaagtccga | gatgccgcga | cgcgaaattcc | cctctcgaat | gcgctcggaa | ttcgagcgat | 60 |
| gatcggagcg | gcgaccaacc | agatcccgc | gccgcgcgcg | ccgcgcgcgc | cgcagcaagc | 120 |
| cgcgccgcgc | gccgcgcgcga | tccggttccc | cgactccgctc | tacaacgcgc | tcagggtggg | 180 |
| cgccgtcttc | cagcggtgtg | cgaagcacct | cgccaccatc | ggcaagggtc | ccggcctgtc | 240 |
| ggcatcttgc | ggtacttcca | tggagtctct | gaactcgtgc | ctctgcctcg | ccagaggcat | 300 |
| tgactatgcg | gtcgcgaaca | atgaggttct | gccccaaagt | cacgaattgc | ctgtcttatt | 360 |
| gaaaaggctc | tgcccttctta | aagatgatag | tttctatctt | tcagttataa | tggttctgat | 420 |
| gatctctgtt | aagaatgcat | gcaaatataa | atggttttca | gagaaggatt | gccaagagct | 480 |
| ccttgccctt | gttgatgaaa | ttgggaaaaa | ctttcaaagt | ccaagagacg | ctgccgttgg | 540 |
| aagtactgcc | tctttttccc | gagtttcaag | tatatattgca | agattctatc | cacagctgaa | 600 |
| gatgggctac | gatcttattt | cgctgggaagt | agagcctgga | tatgcagcac | tggccaatga | 660 |
| ttttcacata | tctaagagca | tgggtgcactc | tcca | | | 694 |

<210> 206
 <211> 1210
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| ggaggaggag | gtgaggagga | aatgaaggga | aaagaggggg | agagaaaagg | aattcaggca | 60 |
| cggcaacaac | tggaaaaggaa | cggggttcaa | aggttctctc | tcttttaagc | agtgagttag | 120 |
| ggggtgcaaa | ttctcattcc | aaccatgatt | ctgtcttgag | ctcgtggggg | gtgagggaga | 180 |
| gggagacgtc | tccagctcga | gtcgtcatct | gggtccgcgt | cttctcttcc | cttcttccaa | 240 |
| tggtttgatc | ctaggacaga | gagagaaaga | gagagatata | caaaaagaga | gatacagaga | 300 |
| gatagaggga | gagggagagg | gagagggaga | ctcgtggcgc | tgtttcgagc | tttctagctt | 360 |
| ccggaggagg | agggctggtg | ttgagcgaaa | cttgagagag | tcatgaattc | gacaaccact | 420 |
| cagtttggtg | cctctagaag | gatgggggatg | tatgacccga | ttcaccaaat | tggaatgtgg | 480 |
| gacgagaact | tcaagcagaa | tggaaatcct | aatgcgcgcg | cagctctgat | catacctatg | 540 |
| cacgcgaatt | tggacaacca | gtcggaggat | acttctcatg | gatcacagga | tactgctggc | 600 |
| aagtatgagc | aagaaacatc | gaaaccttat | gataagggtg | aaagacgtct | tgcccaaaac | 660 |
| cgtgaggctg | cgcgcaaaaag | ccgtctgcgg | aaaaaggctt | atgttcagca | gctagaagca | 720 |
| agtcgtttga | agcttatgca | gttagaacia | gaggttgacc | gagctagaca | acagggtgtg | 780 |
| tacatggctt | caggagtaga | ttcagcttat | ccaggatatg | gtggatgttt | aaattcagga | 840 |
| atcgttgcat | ttgagatgga | gtacgggcac | tggattgatg | aacagaatag | acaaatatgt | 900 |
| gagctgaggg | ctgctttgaa | tgatcataga | actgacgtag | agcttcgcat | cctcgtggaa | 960 |
| agtggcatga | accactatct | ggaacttttt | cgcattgaaag | cggttgccctc | aaaggccgat | 1020 |
| gttttctatg | tgatgtccgg | aatgtggagg | acatcgtcag | agcgattctt | cctgtggatc | 1080 |
| gggggatttc | gtccttcaga | acttcttaag | gttctcatgc | ctcagctcga | ccccttggtca | 1140 |
| gaccaacaat | gggcgtttgt | ttccaacctc | aggcaagctt | gtcaacaggc | tgaagatgcc | 1200 |
| ctaaagcaag | | | | | | 1210 |

<210> 207

<211> 438
 <212> DNA
 <213> Eucalyptus grandis

<400> 207
 aatcaacacc actccccaat ttctctctct aagatcccac cccaaccgcc accctcaatc 60
 tctctctttc tctctcttct tcaagtgtctg ccccgctctgc gacaaggggt tccccctcta 120
 ccaggccctg ggcggccaca aggccagcca ccgcaagcac gcctcctccg ccgcgggccgc 180
 cgccgggggt gacgaccagc cgaccacctc gagcacctcc gggcgagca cctcctccgg 240
 cgtctccggg aagggtccacg agtgctcgat ctgccacaag agcttcccca ccggccaggc 300
 gctcggcggt cacaagcggt gccactacga ggcccccgcc cccatccccg cctccttctc 360
 cgccccctcc gccgcccgcg ccccgccgcg cagcggggtg agcgtgtcgg agggcggtgg 420
 gtccacgcac acgcagag 438

<210> 208
 <211> 516
 <212> DNA
 <213> Eucalyptus grandis

<400> 208
 agacatcaca aaattcagca gctacaacga gctcggagtg agcttgctcg catgttttagc 60
 cttgaaggcc agttggagga cctgtgaga tcaggctggc agcttgattt cgtagatagg 120
 gagaatgata gtcttctcct tggatgatggc ccttgccggg agtttgtgaa cagtgtgtgg 180
 tgcatacaaga tactctcacc tcaagaagtc cagcaaatgg gcaacaaga tctggagctt 240
 ctgaattcca tccctgttca aaggcactcg aacggcggtt gcgatgaatt cacaaaccga 300
 caggattcta gaaccattaa ctccggaata ccatctgtgg ggtctcttga ttatggaact 360
 ctatgacctg ttaagatgca atttcttctg gtaaatattca gtgttgtcca agccatccgt 420
 ggttggaacg actcgttag ttcttacctt agattgtaac actcatgcag aatttagcac 480
 tgtaattgata tttgtcttct tccccaaaaa aaaaaa 516

<210> 209
 <211> 547
 <212> DNA
 <213> Eucalyptus grandis

<400> 209
 aaccgacgac acaggtgaca agaatcacag gttcgaaggg ggtcaattgg gtgttgcagc 60
 agcttctgat tccagtgaca gatcaaaaaga aaaagccaca gatcagaaga ctttacgcag 120
 gcttgctcaa aaccgtgaag ctgccagaaa gactagatta aggaaaaagg catatgtcca 180
 acaactggag agtagcaggc tgaaaactcac ccaactagag caagaactgc agcgagcccc 240
 tcagcagggc attttcatctt caggtagtgg agaacaatcc cactcaatga gcggaaatgg 300
 tgccctggcc tttgatgttg aatatgcacg ttggcttgaa gagcacaaca aggttggtta 360
 tgagctgaga aatgcgggtca atgctcatgc tggggacact gagctacgga caattgttga 420
 caatgtcgcc gcacactttg atgaaatctt caagctgaaa ggcactgcag caaaagctga 480
 tgttttccac attttgtctg gaatgtggaa aactccagca gagcgatgct ttatgtggat 540
 tgggtggg 547

<210> 210
 <211> 522
 <212> DNA
 <213> Eucalyptus grandis

<400> 210
 aaaagagcga ccattctctc tctctctctc tctctctgtg aagatcctct ctagcgataa 60
 atcactgttg cccatttctt ccttggtctc gttctgttgc ttcctctctc tgtcttcgac 120
 acttcagctc gtgcgagccc aaaaatcgat ccttttctgc ttccttttgc ctctgttcca 180
 gtacagctgt ggtcgagtaa gcaggagtca attgatactg ggtcgatctg gtcggcaact 240

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| tttgttgga | gtttgaggaa | tctgattgag | agaagaggta | gatctaaagg | atcaaaagga | 300 |
| tgatcatttac | cggcacccaa | gttaaagtca | aggcttgcca | aaagacagtt | tatcctgttg | 360 |
| aacagttatc | tgcggatggg | gttgcatacc | acaagtcttg | cttcaagtgc | agccactgca | 420 |
| aaggcacatt | aaagctgagc | agctactcct | caatggaagg | agttctatac | tgcaagcctc | 480 |
| actttgagca | gcttttcaag | gagactggta | atttcaacaa | ga | | 522 |

<210> 211
 <211> 1160
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|------|
| <400> 211 | | | | | | |
| ggattctgaa | ggcagagctc | ttgaggagct | gggggtagat | gagaatgata | tcggaggatc | 60 |
| tctccaaga | tcaactcctc | acatgttctg | taagacactc | acagcttctg | atactagcac | 120 |
| cccggagggt | tttctgtccc | acgtcgagca | gctgaagatt | gctttccccc | tctggactat | 180 |
| aagcagcaaa | ggccttctca | ggaacttgct | gccaaggatt | tgcatggagt | cgaatggagg | 240 |
| tttcgccata | tttatagagg | tcagccaaga | aggcatctgc | ttaccacagg | atggagtgtt | 300 |
| tttgtgagcc | aaaagcgttt | ttcatgtatt | ctacagtcca | agggcaagcc | atgcagagtt | 360 |
| tgctgttccc | tatcagaagt | atctcaaaaag | catcaacaac | gtgatatgca | ttgggacaag | 420 |
| gttcaaaatg | agagttgacg | tagatgatgc | accagaaaag | aggtgtactg | gtgtagtgac | 480 |
| taggataggc | gacttggatc | cttatagggtg | gcccactca | aaatggagat | gcctgatggg | 540 |
| tcaatgggat | gatgatatca | cgaatgggca | tcaagatcgg | gtctcaccct | gggaaattga | 600 |
| tccatctgtt | tctcactcac | ctttgagcat | tcagtcctct | ccaaggctta | aaaggccgcg | 660 |
| gactagtctg | ccaacaatgc | cgctgttccc | tggtggaggg | gtcaggcttt | tggactttga | 720 |
| ggaatcttta | cgatcctcta | aggtcttgca | aggtcaagaa | aagttgcatt | tggtgtcacc | 780 |
| tgtctatgga | cgtgacaccc | taaaactgtca | ggtcgatttc | gaacaatccc | ctgcacatca | 840 |
| gggtctagca | tctgttgtaa | gtaagaaaaag | gccaacaata | tcaatgagta | catgagggct | 900 |
| aatgccccta | gttatgcagg | ctttgtggaa | tccgatagat | tcccaagggt | cttgcaagggt | 960 |
| caagaaatat | gcacactgaa | gtctttgacg | actaaacctg | agtacaacct | agggacctgg | 1020 |
| gggaaatcca | gtctttcgtg | cagttctttc | ggtgtgcatc | aggcacccaa | gtaccatttc | 1080 |
| gaccaagtga | aatcatccga | aagccttcag | aaagtgtact | ttccatataa | tgacattctt | 1140 |
| aaatccagcc | aagatcgcac | | | | | 1160 |

<210> 212
 <211> 850
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| <400> 212 | | | | | | |
| ttcgacgggc | aaatcgctcc | cagactgtta | tgcttctctc | agttctatca | agtgacagca | 60 |
| tgcatattgg | ccttcttgca | gcagcagctc | atgctgctgc | cacgaacagc | cgctttacaa | 120 |
| tcttttataa | tccaaggggc | agtcacatcg | agtttgatc | acctctggca | aaatatgtga | 180 |
| aagcagtcta | tcacacaagg | gtatctgttg | gcatgcatg | cagaatgctt | tttgagacag | 240 |
| aagagtcaag | cgttcgtaga | tacatgggga | cgataacagg | cattagtgat | ctggatcctg | 300 |
| ttcgctggca | aaactcacat | tggtgttcag | ttaaagggtg | atgggatgag | tcaactgcag | 360 |
| gtgagaggca | gccaagagta | tccttgtggg | aaattgagcc | actaacaaca | ttcccaatgt | 420 |
| atccttctcc | attccccctc | agactgaaga | gacctgggcc | atctggactt | ccttcatttc | 480 |
| atgcccttag | ggatgggtgat | atgagtatca | gttcttcaact | gatgtggctt | caagggtgtg | 540 |
| gggatcaggg | agttcagtcg | ttaaaacttcc | agggatttgg | gatgactcca | tggtccagc | 600 |
| caagatatga | cacttcaatg | gctgctttac | aaactgatgt | gtatcaggca | atggcaagcg | 660 |
| cagcactgca | ggatatgagg | gcagtggacc | cttcaaaaatg | tgcatctcag | tctcttctgc | 720 |
| ctcttcagca | atctcaaaaat | gttcctatgg | ggcaagcttc | tatcatccag | aggcagatgt | 780 |
| tgacagcagc | tcaatctcaa | aatagccttc | ttcagggtct | ccaggaaaat | caggcaaaac | 840 |
| ccaaaggcag | | | | | | 850 |

<210> 213
 <211> 534

<212> DNA

<213> Eucalyptus grandis

<400> 213

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ggacaagctg | agggagatag | aaaattcatt | gtttggacct | gaatctgata | tcagtgatag | 60 |
| ctgcaattgt | tgctaaata | gtgggagcca | ccaattcccg | tcaactgggc | agtggaatgt | 120 |
| aaaccagatg | atagagatga | tccctaaatt | ggatttgaag | gacatgctga | ttgtctgtgc | 180 |
| acaagcagtt | gccgaagctg | acatgcctag | gacagctgct | ttgatggagg | tgtagagag | 240 |
| gatgggtgtct | gtctcaggag | atccaatcca | acggttgggt | gcttacttat | tagaagggct | 300 |
| tagagcgagg | ttggaatcat | ctgggagcat | aatctacaga | aagctcaagt | gcaaagagcc | 360 |
| cactggctcg | gaattgatgt | cttacatgtc | catcctctat | caaatttgtc | catactggaa | 420 |
| gtttgcctac | gagtcggcaa | atgttgtaat | tggggaagct | ataaagtacg | agtcaagaat | 480 |
| ccacataatt | gacttccaga | tcgctcaagg | aagccagtgg | atccctatta | tcca | 534 |

<210> 214

<211> 358

<212> DNA

<213> Eucalyptus grandis

<400> 214

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| ctcctctcct | ccctcactct | ccctcttatt | tcttccctcc | tctcctccgg | gtacatgcaa | 60 |
| gaattcgagg | gggagagagg | gagagagcgt | gctttgaaca | tggggaggag | cccagaggtgc | 120 |
| gacaaggacg | ggctcaacaa | aggagcgtgg | acggccgcgg | aggaccagat | cctgatggac | 180 |
| tacgtcaagc | tccacggcga | gggcaaatgg | agccggctct | ccagggaaac | cggtctaaga | 240 |
| agatgcggca | agagctgcag | gctgcgttgg | atgaattacc | tgaggcccga | catcaagaga | 300 |
| gggaacatct | cgcccagacga | agaagaacta | atcatccggc | ttcacaagct | attggggca | 358 |

<210> 215

<211> 988

<212> DNA

<213> Eucalyptus grandis

<400> 215

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| actcccctcg | ccccccctac | atcatccctc | ctcgtctcct | ccgtcccttc | tctctcctct | 60 |
| gcttcttctt | cttcttcttc | ttctccttct | tcttcttctt | ctctctagct | ctctcgtctt | 120 |
| ggcccacgcg | gctgtctctc | cttctgtctc | tctccccccc | atcgcgcccg | agcttaatgt | 180 |
| gagctcagct | tcgagatctg | cgtagattag | ggttttttcg | cgagccgagc | ccgccatgct | 240 |
| cccggccctg | tccgcggggc | ccgcgcctcg | aatgcgctcg | ccgcctgctc | ggtggagccg | 300 |
| acgccgcgcg | cggggggggc | gagggggagg | ggaggaagat | ctagcggggg | cctgctacga | 360 |
| tggttaggga | tttctgtctac | tgtatcggca | tcgatttcgg | ttgaggcttt | tcgtttcctc | 420 |
| ttcttttctg | ttgggggggtg | gggggtgggg | gcgcgcgagg | gaccgggttt | cgccccggca | 480 |
| atggatgcgt | ccgcgtagga | ggcgcggtcc | gtgcgagggg | aggagggcgg | tttgccgggg | 540 |
| ggggttttgg | gagttgaaga | cgggaagaaa | gtggagcttg | tgctgaagaa | tgagactctc | 600 |
| gtcgtcgggc | ttcaaccatc | agtcgccgga | agcctcaaat | gcagggggaga | agaaatgttt | 660 |
| gaactctgag | ctatggcatg | catgtgctgg | tcctcttgtg | tcgttgccct | ctggttgaag | 720 |
| cagagtcgtc | tacttttctc | aaggacatag | tgagcaggtg | gctgcttcta | ctaataagga | 780 |
| agtagatgct | catatcccga | attatccaaa | cttatcccca | cagcttatct | gtcagcttca | 840 |
| taatgttacc | atgcacgcgg | atgtggagac | ggatgaagtg | tatgctcaaa | tgaccctgca | 900 |
| gcctctaagt | ccgcaagagc | aaaaggatct | atatctactg | cctgctgaac | ttggaactcc | 960 |
| cagtaaacag | ccaacaaact | acttctctg | | | | 988 |

<210> 216

<211> 669

<212> DNA

<213> Eucalyptus grandis

<400> 216

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| cttctccctt | cctttccctt | accacgtcgt | cgctctcttc | tcctccgct | cgcaaaatcc | 60 |
| gaaccctagg | ccgcgcagcg | aaccgccgga | atccatcgcc | cgcgagggtc | gccgcgcgcg | 120 |
| ccgtacatgc | ttatttatcg | cgccgcgcgc | ccgcgcagcg | tattctcctt | cgatcgggcc | 180 |
| ctatgagccc | cgcgcgacgc | aagccgatcg | cgatccgggc | cgctctctac | gccaacctcg | 240 |
| agtccgagtt | cgcgctgac | cggtccgctc | tcgaccgggt | cccgatcacc | tccatggaca | 300 |
| ccgagttccc | cggcaccgtg | atccgccccg | gccccgcgcg | cgggggcggc | ggccgagcgc | 360 |
| tgccgcgcgc | ggagagcaac | tacggcctcc | tcaaggcgaa | cgtcgaccgg | atgcacatga | 420 |
| tccagatcgg | gctcacgctg | tcggacggcg | agggcaacct | ccccgacttc | ggcaccaagt | 480 |
| gcgcgtacat | ctgggagttc | aatttttaggg | atttcgacgc | ggcgcgcgac | gtgcagaacc | 540 |
| cggactcggg | ggcggttgctc | cggaagcagg | ggatcgattt | cgagatgaac | aggcagaagg | 600 |
| gcgccgactc | ggccccggtt | ggcgagctgc | tgatgtcgtc | ggggctcgtc | tgcaacgatg | 660 |
| aagtgagtt | | | | | | 669 |

<210> 217
 <211> 334
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 217 | | | | | | |
| ccgtggcggt | tttaacatgg | agaagctggc | gagggggagc | gtccaagaag | aacatttgaa | 60 |
| cgccgcagtg | gcactggacg | agggttggtg | ttgtacacca | agaatgttgc | attttagctt | 120 |
| tgaaaacgag | tttaacgag | atggagctgg | tcgtggaaac | tggggaactc | ctactgatga | 180 |
| aattgctccg | gagcctgaag | aacctgttgt | ggaagttgaa | aaaaatgtgg | gatctgagaa | 240 |
| gcagttgggt | gatgaggagg | ctgcagatgc | tagcaaagag | aatcctttga | atgaaccaga | 300 |
| ggaaaaagag | cctgaagata | aggagatgac | atta | | | 334 |

<210> 218
 <211> 478
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 218 | | | | | | |
| cagtcggggt | tgccgttaga | tgataggccc | gagggagctc | gctccccctt | tccggaacct | 60 |
| atatatgata | atatggggat | taggatcaat | acgagagagt | atcgctgctg | tgagcgtctg | 120 |
| aacaaggaga | gacaggacat | tattacacag | attattaagc | ggaatccagc | gtttaagccc | 180 |
| ccggctgatt | ataggcctcc | caagctacag | aagaagctgt | acataccgat | gaaagagtac | 240 |
| cccggttaca | attttattgg | acttataata | ggacctaggg | gcaataccca | gaaaaggatg | 300 |
| gaacgtgaaa | ctggtgcaaa | gatcgtcatt | cgtggaaaag | gttcagtga | agagggtagg | 360 |
| ttgcagcaga | agagggattt | gaagcctgat | ccagcagaga | atgaggattt | gcatgttttg | 420 |
| gtggaagcgg | agacacagga | ggcactagat | gcagctgcag | ggatggtgga | gaaactgt | 478 |

<210> 219
 <211> 1677
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 219 | | | | | | |
| ccgttccctt | cccgttccct | ccctgatctt | ccgtcgtccg | gcggttcccc | gttccggctc | 60 |
| cagcaatgtg | tgggggcgcg | atcatctccg | acttcatccc | caaccagagg | gccccgcgat | 120 |
| tgacctcgga | cttccgtgtg | cccgatctga | agagatcggc | cggaagcag | tcgaggcggc | 180 |
| cggccagggt | ggaggctcgt | gatgtcgtgg | acgatgactt | cgaggccgac | ttccagggct | 240 |
| tcaaggacga | gtccgacgct | gaggacgact | tcgacgacga | ggtcgagggt | gacgtcaagc | 300 |
| ccttcgcttt | ctccgcgcgc | gagcctcggt | actccaaagg | ctcttcgacc | accaaactcg | 360 |
| tggagtataa | tgggcaagct | gagaaatctg | ccaagagaaa | gaggaagaac | caatataggg | 420 |
| gaatcaggca | gcgtccatgg | ggaaaatggg | ctgctgagat | ccgtgaccca | aggaaagggg | 480 |
| tccgagtttg | gcttgggacg | tttaacacag | cagaagaagc | tgcccagagc | tatgatgctg | 540 |
| aggctcggag | aattcgtggc | aagaaagcta | aagtgaactt | ccctgatgat | tcttccagtg | 600 |

| | | | | | | |
|-------------|------------|-------------|-------------|------------|------------|------|
| catcatcaaa | acgctctgtg | aagtcaaatg | ttcagaaaact | tcccaagaca | acaacaaaca | 660 |
| acgtgcagcc | taatctgaat | caaaaatttca | attatgcaaa | cagctctgat | gatgacattt | 720 |
| acagttccat | gggttttgtt | gaagaaaaaac | cacctactaa | ccagttttac | atggatgctt | 780 |
| tgaatgcca | aggggtttct | ggaatgaatt | ctctttcccc | tgctgacaat | gcccccttgt | 840 |
| acttcaattc | agaccaggga | agcaactcat | ttgagtgttc | tgacttttgt | tggggtgaaa | 900 |
| atgccccaa | aactccagat | gtctcatctg | tactttcagc | taccttgga | gttgatgaat | 960 |
| ctcagtttga | ggatgctaac | ccaaggaaga | aaatcaggtc | tgcttctgat | gatgtgtccg | 1020 |
| aggaagaaaa | caccgctgca | aagacattct | ctgaggagct | gtctgctttt | gagtccgata | 1080 |
| tgaagtctct | ccagatgcca | tttgtggatg | gtggctggga | tccgtcagtg | gaagccttac | 1140 |
| ttgggtggaga | ggcaactcag | gatggtggaa | atgcagtgga | tctctggagc | tttgatgacc | 1200 |
| tcgctcccat | gatgggggga | gtcttctaaa | agagttaccg | ttggctgggt | tttttatgta | 1260 |
| aataaggcta | catgttagtg | agtcctcgac | tgctgcctg | tcttattata | ttgagtttgt | 1320 |
| ttccgatgtt | aaaaagtcct | agtcaatgag | aaagagagat | tgcttcttaa | tatgctgcaa | 1380 |
| tgctttcagg | aatgatttgt | ctactgttgt | ggtggagtac | caaacgtttg | aacatggtta | 1440 |
| agccttgga | gaagtgttgt | ttcccagtc | gatatgttgt | atattggagt | atgctgctga | 1500 |
| ctaggtttaag | ttttaaagtc | cagaccttct | tattggaatt | ttgaacttac | gtctgtaatt | 1560 |
| tgatgattat | gtgtgataaa | tgctgaaact | ctgatgacag | caatagcttg | ttctgttggc | 1620 |
| cagtgccttct | ctcaataatt | gccagggcct | gtgataaatt | gtggcaaaaa | aaaaaaa | 1677 |

<210> 220

<211> 916

<212> DNA

<213> Eucalyptus grandis

<400> 220

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| cacggcgccg | ccgccgggtt | tcttggggccg | agggccgtgc | cgatgaaaca | ggcaggtctc | 60 |
| gccagaagc | ccacgaagct | gtaccgggga | gtgaggcaga | ggcactgggg | gaagtgggtg | 120 |
| gccgagatcc | ggctacccaa | gaaccgcacc | cgctctggc | tcggcacctt | cgacacagcc | 180 |
| gaggaggccg | ccctcgccca | cgacaaggcg | gcgtaccggc | tgcggggcga | cttcgcgcgg | 240 |
| ctcaacttcc | cgcacctcaa | gcacaagggg | tcgcacatcc | agggcgactt | cggcgactac | 300 |
| aagccgctcc | attcctccgt | ggacgcgaag | tcccaggcca | tctgccagga | catggccgag | 360 |
| aagccagccg | acggcaagaa | ggagcgctcg | gccccggccg | gcggcggcag | ctccgcagct | 420 |
| gccgcctcgc | cgcggagggc | ggagccggag | ccggagccgg | tgaagacgga | ggtgggagtg | 480 |
| tcggcggcga | cgtcgtctc | ccgggagagc | gacgacgcgt | cggtggagga | gtcgtcgccg | 540 |
| ctgtcggagc | tgacgttcaa | cgacttcgtg | gagccgcagt | gggagagcgt | gggggtgcc | 600 |
| gagaacttct | cactgcagaa | gtaccctgcc | gagatcgact | gggctgctat | ctattcttga | 660 |
| agcctttttt | cacttctcat | catcatcatg | tcatgtccag | ttttctccag | tagtttcgtc | 720 |
| ttctttctct | ttcgaatttc | caagaagcgc | agtatgtaat | atgttaggag | taatttaggg | 780 |
| aaagcagggg | gctctgctgc | gatggagttt | ttggcagttg | cagcggccac | tgctaagcct | 840 |
| tgtatcgtcg | tgtaaatccg | accacggtcc | cgccgggggt | ttaagtcggc | ggcgccgggg | 900 |
| atcatctcat | gcattc | | | | | 916 |

<210> 221

<211> 567

<212> DNA

<213> Eucalyptus grandis

<400> 221

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| gcgttgatct | gctcctgac | atggccctga | tcgtatggaa | cgagcatgtt | caatctctgg | 60 |
| caattctcca | tgaaactgtt | agcatttccg | ctatgaccac | cgtcgatggc | catcccgtat | 120 |
| ggaccgcaga | agccatggaa | gccgggcatt | tccttggata | aacctgtctc | ctccttggga | 180 |
| ttcttttctt | ttctcagacc | agttaactca | gctaaaatgt | cgtgtattat | attgtgatgt | 240 |
| gagaaattac | ttctaatttg | tattatcacc | atcttcttct | gtagccacac | tatgaaagat | 300 |
| ctaagtttga | ggcaatggga | agtgggtgtc | acacctggca | atgaaggaaa | gacagcgttg | 360 |
| gagagctgaa | gaggacgcct | tgttacgtgc | atatgtgaaa | cagtatggcc | caagggagtg | 420 |
| gcacctgtgt | tctcagcgca | tgaacactcc | ccttaaccgt | gatgccaaagt | cctgcttaga | 480 |
| gagggtggaag | aactacctga | aaccaggtat | aaagaaggga | tccttcagtg | aggaagaaca | 540 |

gcgtcttgtc ttccatttgt tgccgtg

567

<210> 222

<211> 985

<212> DNA

<213> *Eucalyptus grandis*

<400> 222

| | | | | | | |
|-------------|-------------|-------------|------------|-------------|-------------|-----|
| gtgggttttgc | cgctctcggg | gatgggtgaaa | tcgagcggag | gcgcggggga | ttctgatcat | 60 |
| tcagatcttg | aagcgtccgt | cgtgaaggaa | gctgatagta | gcagagtcgt | tgagccggag | 120 |
| aaaaggccgc | gaaagcgagg | taggaaacct | gccaatggcc | gagaggagcc | attgaatcat | 180 |
| gttgaggccg | agaggcagag | gagggagaag | cttaaccagc | ggttttacgc | gctccgggccc | 240 |
| gtgggttcta | atgtttccaa | gatggacaaa | gcgtcacttc | ttggcgatgc | gatagcgtac | 300 |
| atcaaggagc | tgaactcgaa | gctccagacc | acggaatctg | acaaggagaa | tctgcagaag | 360 |
| caaatggaat | ccttgaagaa | ggaattaacg | aataaagact | ctcggctctgc | tctgccccag | 420 |
| agcgataaag | atctcagtat | ctcgagcaat | cacggtgcca | agttgataga | attggacgtg | 480 |
| gacgtgaaga | taatcggatg | ggatgtgatg | atacggattc | aaagcagcaa | gaagaaccac | 540 |
| cctgctgcga | agctaattgca | ggccctaattg | gagttggatc | ttgacgtgca | tcatgccagc | 600 |
| gtctccgtgg | tgaatgactt | gatgatccaa | caggcgactg | tgaagatgag | tggtcgtttt | 660 |
| tactcacagg | aacagctaag | gctggcgctg | tcgtccaaaa | taggataagc | ccatcagaag | 720 |
| tagaagaggg | agtgatggta | attaaactgt | ataaaagagc | ttgccgatgt | ttgaattgtc | 780 |
| gacgcgaata | atcaggggct | gggatatttt | aaggctcccc | gcacagcaag | ttctgaagca | 840 |
| agagctgcca | tatgctgttt | gttcctcttg | tagttcttag | tgtagcctgc | tagtgtttct | 900 |
| tattaggtac | tttcgattgt | ggagcactga | gaggatatga | aacaagggtg | aattgttgtt | 960 |
| gaagataaaa | aaaaaaaaaa | aaaaa | | | | 985 |

<210> 223

<211> 335

<212> DNA

<213> *Eucalyptus grandis*

<400> 223

| | | | | | | |
|------------|-------------|-------------|------------|------------|-------------|-----|
| tggagcttaa | acctgataag | attggttttac | agaggagtga | gcaattaaga | gatcttttacg | 60 |
| agtcgctgct | tgaaggggaa | actgatgcac | aaaacaagcg | gccctcggct | gcattatctc | 120 |
| cagaggatct | cacagacgaa | gagtggtatt | acttggtttg | catgtccttt | gtattcaatc | 180 |
| ctggcggaag | tcttcgggga | agagcgctag | cggatggcca | aactatctgg | ttatgcaatg | 240 |
| ctcaatatgc | agatagcaaa | gtgtttttctc | gctcactact | tgcaaagagt | gcattctatc | 300 |
| agactgtggt | atgtttttccc | tatctcggag | gtgtg | | | 335 |

<210> 224

<211> 377

<212> DNA

<213> *Eucalyptus grandis*

<400> 224

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| ccaatcttca | ctccccctat | ccccctctctc | tctctctcaa | gaactaagag | cttactatgg | 60 |
| aaagcgaacg | ctacgatgag | acgacagaga | agcagcgaat | caggagaagg | ccgcaccaga | 120 |
| agccgtacag | gggtatccgg | atgaggaagt | ggggtaagtg | ggtggctgag | atcagggagc | 180 |
| ccaacaagcg | ctcccgatc | tggctcggct | cctacgccac | cgccgtggct | gccgcccgcg | 240 |
| cctacgacac | cgctgtgttc | tacctcctg | gccccctctgc | ccgcctcaac | ttccccgacc | 300 |
| tcattcttga | cgagggccag | gactcgctgg | gtgaggtctc | agccgcctcc | atccgcaggc | 360 |
| gtgcagctga | ggtcggg | | | | | 377 |

<210> 225

<211> 394

<212> DNA

<213> *Eucalyptus grandis*

<400> 225
ctcaatctga cttgtcaggg gtgggatagc aagaaaaggg tctgaaagtt tttcttgctg 60
aatcttcttt gaccctcgga caatcagaca cagcatagat ttaatctgcc cgaggaaaca 120
caaaagatgg ctttctactgg aaccgtggat aaatgtaagg tttgtgacaa gaccgttcat 180
gtcgtcgaca tgatgactct tgaaggcatt ccctatcaca aaacctgctt cagatgcagc 240
cattgcaatg ggacgcttgt gatgagcaac tattcctcga tggatgggtgt tctctactgt 300
aagacgcatt tcgagcaact cttcaaggaa tccggtgatt tcaggaagaa tttccattca 360
gccaagtccg acaagccgaa tgagatgaca agaa 394

<210> 226
<211> 340
<212> DNA
<213> Eucalyptus grandis

<400> 226
gactccccct atccccctctc tttctccctc tcaagaatca agagattact atggaaagcg 60
aacgctacga tgagacgaca gaggggcagc gaatcaagag aaggccgcac cagcagcagc 120
agcagcagca gcagcggcgg cagaagcctt acaggggtat ccggatgagg aagtggggca 180
agtgggtggc cgagatcagg gagcccaaca agcgtctccg catctggctc ggctcctatg 240
ccacccccgt ggccgcgcgc cgcgcctacg acaccgccgt cttctacctc cgcggccctc 300
ccgcccgcct caacttcccc gacctcatct ggcgcgaggg 340

<210> 227
<211> 571
<212> DNA
<213> Eucalyptus grandis

<400> 227
ccgactcagc aaagccaaag aaagaaacca gaaacagcag accagaccat tccattccat 60
tccatttcgc attctctact acagactcgc agagatgggtg aagagagaca gagaggacgc 120
ggaggtcgaa gccctggcgg tggccaactg cttgatgctc ctcccccgag tcggcgagag 180
cgccgtctcg aaccgcgaat cgcggtctac agagcggatg ttcgcgtgca agacgtgcaa 240
ccgcgagttc tctctattcc aggcgctcgg agggcataga accagccaca agaagcagaa 300
gctgatcccc ggccgcctct tccacctcgg ctgcaccgcg gattcctcgc cagccaagcc 360
gaagaggcac gagtgtctga tatgcggcct cgagttcccc atgggccaag cccttggcgg 420
tcacatgagg aggcacaggg ccgccatggc ggagggcttg gcggcagagg cggcgaagcc 480
tgtgccggtg ttgaagagat cgaatagcaa gagagtcatg tgcttggtatt tgaactcgtc 540
gctgatggag gacgacttga ccttgcgttt a 571

<210> 228
<211> 726
<212> DNA
<213> Eucalyptus grandis

<400> 228
atgaggactc cctggacaag gaacccccctc ctccgcctcc tccgagattc aaggtgcatt 60
ctttctgcaa gaccttgact gcctcggaca ccagcactca tgggtgattc tcagtgttga 120
gagctcatgc ggacgaatgc ctccccgaac tggacatgtc aaaacaacct cctacgcaag 180
aactagccgc caaggatctg catgggaatg aatggcgttt tcgacatatt ttccgaggcc 240
agccaaggag gcacctactg caaagtgggt ggagtgtttt tgtgagctcc aaaagacttg 300
tcgctgggga tgcatttata ttctaagggt gcgaaaatgg ggaacttcgt gtaggtgtta 360
gacgagctat gaaacagcaa ggcaacgttt cgccatcagt catatctagt cacagcatgc 420
atcttgggtg ccttgctacg gcatggcatg ccatttctac aggaaccatg ttcactgttt 480
actacaaacc taggataagc cctgctgagt tcatcatccc ttatgatcag tacatggagt 540
ctctcaagaa gaattactcc attggcatga gattcaaaat gagatttgaa ggggaagaag 600
ctccagagca gaggtttact ggaacaataa tcggcattga agatgctgac caaaagggtt 660

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ggcgagatac | aaaatggagg | agtctcaagg | tgagatggga | tgagaattct | gccatacctc | 720 |
| gtccag | | | | | | 726 |

<210> 229
 <211> 752
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|-----|
| <400> 229 | | | | | | |
| gttcagaggg | gtgcggaaga | ggaagtgggg | caggtggggtc | tccgagatcc | gcctgcccac | 60 |
| cagccggggag | aggatctggc | tcgggtccta | cgacaccccc | gagaaggcgg | cccgcgcctt | 120 |
| cgacgccgcc | gccttctgcc | tcggccgccc | cgccgcgaag | ctcaacttcc | ccggcagccc | 180 |
| cccggagatc | tccggcgccg | cgctccctctc | ccccgatgag | atccagtcgg | ccgcggcgag | 240 |
| ccacgccaac | tttggggccg | tggccgtgcc | ggcccgggccc | gagctgcccc | gaccaggatc | 300 |
| gccggccccc | tcgccttcgc | tgtcggcctc | ggaggcgagc | agcgtgctga | cgaccgagag | 360 |
| cgacctgacc | ctggacctat | cgttcctgga | ttttctggat | gattcgggccc | cggtttccgg | 420 |
| cgagccccat | atcggggaagt | tcccgggccc | ggaggaggct | cccgcagttt | tctaccacat | 480 |
| gcagttcccg | agcgtggaga | gcgcggggct | gaatctcgat | actctattgg | cttcagacag | 540 |
| cttcccgtgg | cgtatctgaa | gtggactgaa | ggaagaagcc | tggccgatca | tttctctctt | 600 |
| ttttttttct | ttttttttct | ataattcttt | tgatggacta | gattttgtgg | ggtcgtcatc | 660 |
| cacttcagga | taatacagat | gacaagaact | gactttttat | ggtgtaaaaa | gacgtagctt | 720 |
| ttttgttggt | tcggttcaaa | aaaaaaaaaa | aa | | | 752 |

<210> 230
 <211> 563
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| <400> 230 | | | | | | |
| ccgaggccga | cttcctggcc | aaacactcca | agcccagat | cgctcgacatg | ctgcgcaagc | 60 |
| acacgtaccg | cgacgagcta | gagcagagca | agcggagcta | caggggctcc | gccgcggaac | 120 |
| gggcccggag | gggcgggttc | gggcccgggg | ggacagagtg | gtcggccgcc | gcccgggagc | 180 |
| agctgttcga | gaaggccgtg | acgccgagcg | acgtggggaa | gctgaaccgg | ctggtgatcc | 240 |
| cgaagcagca | cgcgagagaag | cacttcccgc | tgccgggccc | gccggcgccg | acgatgaagg | 300 |
| gcgtactgct | caacttcgag | gacgtcggcg | ggaagggtg | gcggttccgg | tattcgtact | 360 |
| ggaacagcag | ccagagctac | gtgctcacca | aggggttgag | ccggttcgtg | aaggagaaga | 420 |
| gcctgaaggc | cggcgacacc | gtctgcttcc | agcggtcgac | cgggcccggc | aagcagctct | 480 |
| acatcgactt | caagcccgcg | ggccagccgc | cggccggccc | ggccgcgccg | ccgccgccgc | 540 |
| ccgtacagat | ggtgaggctg | ttc | | | | 563 |

<210> 231
 <211> 642
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|------------|------------|-------------|-------------|-----|
| <400> 231 | | | | | | |
| agtaaaccac | ccgaccagaa | cctttgtgaa | ggttcacaaa | tcggggacct | ttgggcgggtc | 60 |
| actggatatt | tcaaaaattca | gcagctatga | tgagctgcgc | agtgaactcg | ctcgcatgtt | 120 |
| tggccttgaa | ggccaattgg | aggaccctca | gagatcaggc | tggcagcttg | tattttaga | 180 |
| ccgggagaat | gatatccttc | tcctgggtga | cgacccttgg | caggagtctg | tcaacaatgt | 240 |
| gtggtacatc | aagattcttt | cccctcatga | agtaaaacaa | ctgggcaaac | aaggcatcaa | 300 |
| ccctgcaaat | tctgtcccaa | ggcaggctct | ctgagtgcac | cacggtattt | gatgagcatg | 360 |
| tttggtcgac | agagttgacc | gatctgagct | ttggggtagg | cagatgatgg | gggtcgctgg | 420 |
| actacttgaa | gccgagtcgt | ttggtgtaag | aaacggactt | ggcttctgat | agtgtttgac | 480 |
| cgtgtttag | tgggtaccta | tgagaaaaaa | gagttgtagt | aatatattgc | ttcgagagat | 540 |
| gtagtacgt | ggtaagtcta | tctcaagttt | gctttataac | tgtaaaagttt | aacaccacgg | 600 |
| atgattgaag | agaatgacat | cgacattccc | gtaaaaaaaa | aa | | 642 |

<210> 232
 <211> 1358
 <212> DNA
 <213> Eucalyptus grandis

<400> 232

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| cgattttacc | ccctccctct | ctcggcatat | aaaaccgcga | ggtgaaaccc | gctctctctc | 60 |
| ccccacgcct | tccgcccgcg | tccgactcgg | actcggccga | gtcaaccac | gccccccgcg | 120 |
| agtcccgcac | ccccggcgcc | atgacgcggc | gatgctcca | ctgctgcaac | aagggccaca | 180 |
| actccaggac | ctgccccgtc | cgcgggcgcg | gcggggacgg | cgggggcgcg | gcggccgccc | 240 |
| cctctctctc | ctccccctec | acctctctct | ctggcgccgc | ggcgggcgcg | gcggcctcgg | 300 |
| cctccggcgg | cggggtgaag | ctgttcgggg | ttagggttaa | ggacgggtcg | atcatgaaga | 360 |
| agagcgccag | cgtgggggtg | ctgtccgccc | cccactacca | ctcctcgtcc | tccgcccgcg | 420 |
| catccccgaa | ccccggctcg | tccccgatcg | acgggagcga | cggctacctg | tccgacgatc | 480 |
| ccgcccgcgg | ctcccgtctg | tccaatcggc | gcgtcgagag | gaagaaaggt | aacccatgga | 540 |
| cggaggaaga | gcatcgaagg | tttttaattg | gtctccagaa | attgggtaaa | ggagactggc | 600 |
| gagggatagc | tcgtgacttt | gtgactacaa | ggactcctac | tcaagtggca | agccatgccc | 660 |
| agaagtatta | tatccggcag | agtaatgctg | gccgaagaaa | gagggcgtcc | agcctttttg | 720 |
| acatggctcc | agatatggct | actgctgacc | aaccctcaca | tccagaagaa | acatttctgc | 780 |
| ctcctttggt | cagacttaac | gatgatacta | actcaacaac | ttcaaccagt | atgggactcg | 840 |
| atttggaag | aacgcctatg | gagacctcgc | accagaaac | atctgaaggg | ggcggtgatg | 900 |
| ttgcgatgga | atcaattgat | caagtacctc | ttgtaccctg | ttacttccca | tactatttac | 960 |
| cactaccctt | tcccatgtgg | ccgcccaca | tggcgcctcc | tgaagatgga | aggggtggtg | 1020 |
| agacatctca | tcaccgtgtg | ctaaagccaa | tcccagtaat | tccaaaagaa | cccctaaata | 1080 |
| tcgaccaa | agttagaatg | tctcagctaa | gtcttgctga | gaatgaacct | gcaccactct | 1140 |
| ctttgaagtt | tctcggggaa | acatctcgac | agtcagcatt | tatcaaggcg | ccttcttcag | 1200 |
| tcaatgaatc | ggatctcgac | aactgcaagg | atggcgccac | tcaagcagct | tgactcgtgc | 1260 |
| ctaagatcag | cgacggttta | gttcttggtg | atctttctgt | aaaaccatct | gtattggtgt | 1320 |
| cctccttttc | ctggtgtatc | tgttttcttt | aggtcttc | | | 1358 |

<210> 233
 <211> 506
 <212> DNA
 <213> Eucalyptus grandis

<400> 233

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aaataactac | ctaccttttt | ctaagaactt | tggctttctt | tcggaacagg | tgaaaagaag | 60 |
| agtataaatt | cagagtattg | gcatgcttgt | gcggggccat | tgggtgtctt | gcctccagtt | 120 |
| gggagtctcg | tgggtctact | tccccaggc | cacagtgagc | aagttgcagc | atcaatgcag | 180 |
| aaggagacta | cttgtgtacc | cagctacccc | aatctgccc | caaagttgat | atgcatgctt | 240 |
| cacaatgtga | cattgcatgc | tgatctcgaa | actgatgaag | tctatgcaca | aatgaccctt | 300 |
| caacctgtaa | gcaaatatga | ccaggaggcg | ttactggcat | ctgatatggg | cctcaagcaa | 360 |
| agcaggcagc | ctacagagtt | tttctgcaag | acgcttacgg | ctagcgacac | aagtactcac | 420 |
| ggtggatttt | cagttcctcg | tcgagctgct | gagaagatct | tcccatcact | agattttact | 480 |
| atgcagccac | cttgccagga | gctaac | | | | 506 |

<210> 234
 <211> 420
 <212> DNA
 <213> Eucalyptus grandis

<400> 234

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| taaaaaccat | gcagtctctc | agccactgaa | catggcgctt | gaagctctca | actcgccac | 60 |
| cgccgcccgc | cccttcggcc | acgacgacgc | ggacggccac | ccgtgggcca | aacggaagcg | 120 |
| ctccaagcgc | ccccgcgcgg | accctcagga | ccagccctcc | gaggaggagt | acctggccct | 180 |
| ctgectcatc | atgctcgccc | gccgcccgcg | ccgaccgggc | agcagcggca | ggctccacga | 240 |

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| gtgctccatc | tgccacaagg | ccttccccac | cgccagggcc | ttggggcgcc | acaagcgggtg | 300 |
| ccactacgac | ggcggcagca | gtagcagcgc | cgcccggtgt | gcctcttcct | cagaagccgg | 360 |
| cggctcctagc | cacacgactg | tcagccaccg | cgagccgatc | gacttgaact | tgccggcctt | 420 |

<210> 235

<211> 476

<212> DNA

<213> *Eucalyptus grandis*

<400> 235

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| gcgacaccta | ctccaaagtg | gttgggtcgt | gtttgtcagc | tctaaaaagc | ttgttgctgg | 60 |
| tgatgctttt | atatatctca | gaggagaaaa | tggtgaactt | cgtgttggag | ttagacgagc | 120 |
| gatgaggcaa | cttaataatg | ttccatcttc | gattatgcca | agtcacagta | tgcatattgg | 180 |
| tgctcttgca | acagcatggc | atgccatttc | aactgggtaca | atgttccactg | tgtattacaa | 240 |
| accaaggact | agccctgctg | aattcatcat | tcctttcgat | aagcacattg | aatctgccaa | 300 |
| atttgattac | tccattggga | tgaggttcag | aatgacattt | gaatggtgaa | gaagctccag | 360 |
| aacagagggt | ctctggcact | gtaattggat | ctgaggatgt | tgatcctccg | aggtggcctg | 420 |
| gatcaaaatg | gagatgcctc | aagggtgcgg | gggatgaaat | cacttccatt | catcgc | 476 |

<210> 236

<211> 799

<212> DNA

<213> *Eucalyptus grandis*

<400> 236

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| cttcctctgt | gcatgacatt | tcagaaaatg | gggaagctga | tgaacagcaa | aaacattcag | 60 |
| aacagcatga | gtcctcccc | gcaactggag | tgctcatcc | tggtgtctct | ttgcccattg | 120 |
| tccaatatgc | aacgcctcca | caacttggag | cgggacatgc | catgacacca | cctgcttacc | 180 |
| cctatccaga | cccttattat | cgaagcatct | ttgtcccta | tgatgcgcag | tcgtaccgcg | 240 |
| agcagcccta | tggtgcacag | cctatgggtc | atctgcaatt | aatgggaatt | caacaagctg | 300 |
| gagtgccttt | gccatcagat | gcagttgagg | aacctgtatt | tgtcaatgca | aaacaatatc | 360 |
| atggcatctt | gcggcgctga | cagtctcgtg | caaaagctga | gtagagaaac | aaagctctta | 420 |
| aatctcgcaa | gccttacttg | catgaatctc | gacatttgca | tgcattgaga | agagctagag | 480 |
| gatgtggggg | gcggttcctg | aacgcaaaga | aggatgaaaa | tcagcagagc | gaggtttctt | 540 |
| cagcggacaa | atcacagggg | aatatcaatc | tcaactctga | taaaagcgat | cgctcgtcct | 600 |
| gagggtgcaac | ttcctgatca | atgcaaagta | atctctttcg | tgcatgaatc | atgcctgttc | 660 |
| atcaatagat | ttcccctacc | tagcctagcc | tcaccaattg | ccctgctctt | ctgcttgtag | 720 |
| gtcagtcctt | ttagttggta | gtgtgaatct | gtttgtagtt | ctgagggaaa | cctgctgcat | 780 |
| agatagtagt | ttcagtagt | | | | | 799 |

<210> 237

<211> 298

<212> DNA

<213> *Eucalyptus grandis*

<400> 237

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| aagtgaagga | tatgtttcaa | gatcaaaggg | aaaagtacga | cacgttcctc | gaggttatga | 60 |
| aagattttcaa | ggctcaaagg | actgacacta | caggagtcac | agcaagagta | aaggaattat | 120 |
| ttaaagggca | taacaaatta | attctgggat | tcaatacttt | cttgccaaag | ggatttgaaa | 180 |
| tatcccccg | cgaggatgaa | acaccaataa | aaaagaatgt | ggaatttgaa | gaagccatct | 240 |
| cttttgtaa | taagatcaag | aaacgcttcc | aaaatgatga | gcatgtctat | aagtcatt | 298 |

<210> 238

<211> 521

<212> DNA

<213> *Eucalyptus grandis*

<400> 238
 tccttctcttc tccttctcttc tctccttctgt ctcttctcaga catgtcgcctc aaccaccccc 60
 tctctacttc agacggcacc cccaacactc tctgggtggac cactcaccac accatgttcc 120
 gccagcaciaa cctcctcttc aatttcaacc ccaccgacga cgacccgcaa gacgagggct 180
 cgcccccgcc gccctacgtc ctccgagggg cgccgccacc ggcggagccg tcgcctgcag 240
 agaaagagcc catgttctgag aagccgctga cgccgagcga cgtggggaag ctgaacaggc 300
 tgggtgatacc gaagcagcac gcggagaagc acttcccgtc ggtgggagcag gcgaccagc 360
 agctgagctt cgaggacgag tccgggaagt ggtggagggt ccgctactcc tactggagca 420
 gcagccagag ctacgtcttc accaagggct ggagccgctt cgtcaaggac aagcgctcgc 480
 acgccgggga cgtggtcttc ttcaccgcga ccgcgccgac g 521

<210> 239

<211> 337

<212> DNA

<213> Eucalyptus grandis

<400> 239
 gcaattcttg ctgccgggga ggggcaaatc gggaacagac gataagggga tggcacagcg 60
 ctccggtccg gcgcccttcc tgacgaagac gtaccagttg gtggacgac cggccaccga 120
 cgacgtcatc tcgtgggggg agagcggccg gacgttcgtg gtgtggaaga cggcggagtt 180
 cgccaaggac ctgctcccca gctctttcaa gcacaacaac ttctccagct tcgtccgcca 240
 gctcaacacc tacggcttca gaaagatcgt gccggacaaa tgggagttcg ccaacgaccg 300
 cttccagcgg ggccagaaa gaaactcttc cgagatc 337

<210> 240

<211> 334

<212> DNA

<213> Eucalyptus grandis

<400> 240
 aggatgtgga gggacaagat gcgtctcaag cggctaaagg agcagaacaa ggggaaggag 60
 ggagttgata tcgcgaaaca gcggcagtc caagagcagg caaggaggaa gaagatgtcg 120
 agagctcagg atggaattct taagtacatg ttgaagatga tgggtggcca ctggaaacga 180
 ggactggtgg cccagctgg gtttgccgaa ggatcaagga gccccgccct acaagaaacc 240
 tcatgatctt aagaaggcat ggaaggtagg tggtctcacg gcggtgatca agcacatgtc 300
 ttctgatatc gccaaagatac gcaagctcgt gagg 334

<210> 241

<211> 422

<212> DNA

<213> Eucalyptus grandis

<400> 241
 ttttctccca cctccttctc tctcctctct ctctctctct acagtttctgc ggcgaaatca 60
 agtcccccg cgagctaggt ttcaaccggc gaagcagcca gaagaagaag aagaagccga 120
 agaagaagaa ggcggagat ggatcagtg aggacggatt tgggagcgtc gacttccgtc 180
 caccctcagc agcaccagca ccagcaccag caccacctgt ccagcaggct gcacgcctcg 240
 cagcagagc ccaggcaaag ggaggaagcg gacgtcaggg atcccgtggc cgcgaggaaa 300
 gtccagaagg ccgaccgcga aaagctaagg agggatcgtc tgaacgagca cttccttgaa 360
 ctggggagca cgctagatcc tgatagacct aagaatgaca aggcaaccat tctcacggac 420
 ac 422

<210> 242

<211> 737

<212> DNA

<213> Eucalyptus grandis

<400> 242
 aaaaagacca tttcttccga acacaagagg aggcgggtgg tgggtgggtgt gttgctgctt 60
 ctggtgccgt ccacttcctt cttcccacct ccatcttcat ctctccctcc ctctctctct 120
 ctgaatctac cgaacccttc tcgccgaagg aggagagaga gagagagaga gagagagaga 180
 cggaagacc atcgcttttc gccatcgctg gcacgagcag tcatgaggag aggcagatgc 240
 gccgccgcgg ccgcgaagag ggaggcgcc gagatagcgc cgccgccggg gccccatgcg 300
 gctgcggcgg cggcggcgga acccagatac agggcgctcc ggcggaagtc gctgggccga 360
 tacacggccg agatcagaga ccccgggacg aagaagctcg tgcggctcgg cactttcggc 420
 tcgccggagg aagcggcgcg tgctttcgac gcgaaggccg tggcggtccg cggggtcaag 480
 gccaggacca acttccccgt cgcgccgctc agtttccctc cggccgcttc tcgcgatctg 540
 cgagctccgt tgattgaatc cagaaagttc ggtcggagag gcgctcgaga tcttcgcggc 600
 gaccaccacg acgtcagccc gcagagaccg acctcgagca gcttaagcag caccgtggtg 660
 tcgtccagtg gtcttcgacc gtcgccgtcg ccggagacgg cgaagcgggc gactaggact 720
 ccgccgcgcc accgccg 737

<210> 243

<211> 542

<212> DNA

<213> Eucalyptus grandis

<400> 243
 ctacaatagc aactcagatc ccattagaga ggaattcatg aaagcactag agccttttat 60
 gaaaagtgtt tcccctgttt cttctccatt atcatcatta tcatcttggt actcggctctt 120
 tccaaaacaa cagcctaatt tgaatcctga ctttgctcc tcttgatag taaacccgat 180
 ggggtctcag caatccggct cgattgggct caaccgactc tcccattctc aaatccaaca 240
 tatccaggac gaaatgctac tccgacgtca aaatcaagaa ctttggttag cttccgctgt 300
 gaaatctcct ctccagcacg aaaaattcga ccagtgtcgg taccaaaacc accacggctc 360
 tccccatctc ctccggccga aagccctctc aatgaagcgg gtgggagtcc ctccgaaacc 420
 caacaagctt tacaggggag tgaggcagag gcactggggg aaatgggtgg ctgagatcag 480
 acttcccaag aacaggacac gcctctggct cggcactttc gacaccgccg aggaggctgc 540
 tc 542

<210> 244

<211> 848

<212> DNA

<213> Eucalyptus grandis

<400> 244
 gagagagaga gagagaggaa ggggtgtcat ggatttgctt ttccacgaag aggttcaaag 60
 cgacatcttc tgggtgcgat aactggtgga gccgcgcgc cgccgcgcgc cgccgctgcc 120
 gccggctaac ccaagcgctt tttcaccgta tacaaaccgg ctgccgagtc aagaccgagg 180
 gttcatgccg aaccggggga ataatatgaa caagcgggtg atggagtctt tgaggaggag 240
 ctggggccgaa ccgagccaga tccaagaatt cgaccgcgaa cgggggtttt gacacatgct 300
 gagcgagagg atgaggaggg agaagcagaa gcgtagctac tcggcattgc tctccgaatt 360
 gcctcatggt accaagaatg acaagaactc catcgtccaa acagcttgca tgagaatcaa 420
 ggagctggtg aagtacaagc aagagctgga gagacaaaac ggggagctga agtctggact 480
 gaacgagaag agcggagggg acaaagctga agggaccaag atcagagtca agattgcgaa 540
 cccgacgtcc gggattgatt ctatgttgga ggtcctcaag tgcctggaca acatgggact 600
 gaaagctacg gcgattcaaa cgcagtgtc ggccgaccaa ctcttcgccg tgatcgaggt 660
 tgaaaatgag gtatgtgcac aacaatccga tgccaatgta cactaatcac tggttcatgt 720
 tcttcgcacg tgattttcat ttttctcgaa tgtaaagtaa gaacttgtac gatgttcatg 780
 cagcacaagt tcgaaatttt ccagttccat gggaaggctc ggcgctcttcg tttctggtgc 840
 caagcatg 848

<210> 245

<211> 181

<212> DNA

<213> Eucalyptus grandis

<400> 245

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gacatggcgc | gacgtggcgg | aggaaggagg | cgaacggcgg | ctccgaggcg | tccgacgccg | 60 |
| tcttgcccg | agctcatcat | cgccatcggt | acaagggagt | gaggatgcgg | aagtggggga | 120 |
| agtgggtggc | ggagatacgg | cagcccaaca | gccgggaccg | catctggctc | ggctcctacg | 180 |
| c | | | | | | 181 |

<210> 246

<211> 117

<212> DNA

<213> Eucalyptus grandis

<400> 246

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgagctgctg | cagatccaga | ggaagaggaa | gaggatggag | tcgaaccggg | agtcggcgaa | 60 |
| gcggtcgcgg | ctgcggaagc | agcagcactt | ggacgagctc | acgaccgagg | tgggtcgg | 117 |

<210> 247

<211> 597

<212> DNA

<213> Eucalyptus grandis

<400> 247

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| tctctctctc | ttcgtttctc | ccgttttctc | ctctctacct | ctcgccaaga | aaccgccagg | 60 |
| aaaggaagga | aggtaaaaag | aaaagaaaag | gaagccatgg | ctccgagaga | aaagcccagc | 120 |
| gtcgccgcca | tcccaaacc | taacggcgct | aaggaaatcc | gtttccgggg | cgtccggaag | 180 |
| aggccctggg | gcccgtacgc | cgccgagatc | cgggaccccg | gcaagaagac | ccgggtgtgg | 240 |
| ctcggcacct | tcgacacagc | cgaggaggcc | gcccgcgcct | acgacaccgc | cgcccgcgag | 300 |
| ttccgcggcg | ccaaggccaa | gaccaacttc | cccacctccg | ccgagctgat | ctcctcctcc | 360 |
| cgagcccca | gccagagcag | ctccctcgac | gagccctccc | ccccgcgcgc | ggccggggcc | 420 |
| gtccaggccg | ccgccctcgg | cccgcctc | gacctcagcc | tcggccgcca | ccccgtcgcc | 480 |
| gccgcgcgcg | ccgggcccgg | gccttacttc | cccggcgcg | ccgcaatgtg | cttcccgggtg | 540 |
| atgcccccg | cgccgcggcc | ggtgttcttc | ttcgaccctt | tcggccgcat | ggagcat | 597 |

<210> 248

<211> 361

<212> DNA

<213> Eucalyptus grandis

<400> 248

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|-----|
| gaggctcagt | acttcgtgta | gccatggggc | atgaaagtga | agcatttgaa | gagtttggtg | 60 |
| atgcgacaaa | aacttgcttg | aatgatctca | tggtcttccc | tactcgtaat | gccttggact | 120 |
| ctcaagtgtt | gctgcaaagt | cagaaaagct | tgctgccttg | cagaacgaat | atcattttgc | 180 |
| taaagcaagg | attgatgaag | atcatgagaa | ggcgacgcga | ctggagaaga | aggtcaaaac | 240 |
| tctcacattc | ggctatcaga | tgccgggagaa | gactcttcga | gaccaaaattg | agtcaacctt | 300 |
| caagcagctg | gacactgcag | ggacagaact | cgagtgtttc | ccagctctgc | agaagcaaga | 360 |
| g | | | | | | 361 |

<210> 249

<211> 472

<212> DNA

<213> Eucalyptus grandis

<400> 249

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ccatcgtcac | ctgtatccac | aaaaacacac | ccaccttacc | tctgcacccg | ccccaccgcg | 60 |
| ctatcgcagg | gcctgcgata | cagacgcttg | gctgcgaagc | atgaagagaa | gccctccgct | 120 |
| gtgctcgaca | aatcccaaga | tcccacagac | agcgcaaagc | catccaagaa | gccccgccat | 180 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgtcacagtc | ccacccagct | cgctgccctc | aacgaactct | ttgagaaaag | cgaacacccc | 240 |
| actcttgagg | agcgaggcca | gttggctgag | aaattaggaa | tggagacca | gaccgtcaat | 300 |
| gcatggtttc | agaacaagcg | tgcttctact | aagaagcgca | ataagggggg | aacctcgga | 360 |
| cctcaccag | ccacgagtca | gaacgacttg | tccgaagatg | ctctcaaaac | cccttcgca | 420 |
| ctgccgtcga | tagcgaacct | gctcaacgac | gcaccctcat | cggcctcgcc | gc | 472 |

<210> 250
 <211> 302
 <212> DNA
 <213> *Eucalyptus grandis*

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 250 | | | | | | |
| ccccgcccac | ttatctgcta | tcctcgctac | ttcgctctat | tagtacctcc | acaatcccat | 60 |
| gcgcaaacgc | caacgcaccc | tcgacatgca | cgccggcgca | ccaggtccca | acgatgccat | 120 |
| tgacgcgaac | agcgtcggcg | acaacgcgtt | catcgcggat | cacgacgcaa | ttgactcggc | 180 |
| cggcgacgac | gacgacgacg | aagacaagcc | caagaccggc | cagaagcaag | gccgccgcaa | 240 |
| aataaagatc | gagtttatac | aggacaaatc | gagacgccat | atcaccttct | ccaaaaggaa | 300 |
| ag | | | | | | 302 |

<210> 251
 <211> 708
 <212> DNA
 <213> *Eucalyptus grandis*

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 251 | | | | | | |
| gatcacgttc | cttcttcgag | tgctctggac | agtaggagct | cctcaaaccg | tacttctggg | 60 |
| gtgaccttag | cagaggtttt | accaacaccc | gggcagtcta | agagttcagc | tgattcaggc | 120 |
| ttttgtgtca | gtcatcttgg | tggggttcct | gattcacaat | cttcttcata | cgcagcagag | 180 |
| catgttaata | cacatcagac | tcaagagata | catttgccag | tgccgcagga | caatgcagat | 240 |
| ctccctgatg | caaacttttt | ggtttcggaa | actgcaagtc | ctgactatct | tgaaactctg | 300 |
| tccgcagctt | tagatgggac | catggatgtc | gagtcagatg | cttttctctc | tgaacgagat | 360 |
| gcgggaatta | tgctggatga | tgtaactaat | cttccagcga | tcagtgatgt | cttctgggaa | 420 |
| cagtttcttg | cggcaagtcc | acttactgca | gacacagagg | agattagtgc | gacctctcat | 480 |
| gaaactggca | tcacgaatga | tcaagagtca | cacactaagg | tggagaatgg | atgtgagaag | 540 |
| gccatttaca | tggatcatct | taccaaacag | atgggtcatc | tcacctcaa | caacggaaca | 600 |
| ggatgatatg | ttcttatcta | ctttgtacac | tggataatct | ctttcagact | agaggtgaat | 660 |
| gccaatgcag | gatgcgaata | acaaattatg | ccaaaaaaaa | aaaaaaa | | 708 |

<210> 252
 <211> 563
 <212> DNA
 <213> *Eucalyptus grandis*

| | | | | | | |
|-------------|------------|-------------|-------------|------------|------------|-----|
| <400> 252 | | | | | | |
| atTTTTcaac | ttcccccccc | caccccggaat | caaattcccat | tccctctctc | cctccctccc | 60 |
| ttttttttccc | ccaatctttt | gttgcgtttt | caagcaccca | cgcccccaa | tctccaacgc | 120 |
| catcaatcaa | gtcgaagcac | catcacctca | agaagaaaga | aggaaagaaa | gagagaagga | 180 |
| ccggagaccc | gacagagggt | cgcgcgcgca | cgagacatgg | gacgatcccc | ttgctgcgag | 240 |
| aaggcgacac | ccaacaaggg | cgcgtggacc | aaggaaaggg | accagcgctt | catcgactac | 300 |
| atccgcctcc | acggcgaagg | ttgctggcgc | tccctcccca | aatctgccgg | gcttctcagg | 360 |
| tgccgcaaga | gctgcaggct | caggtggata | aactacctcc | gccccgacct | cagcgcgcca | 420 |
| acttcaccga | ggaagaagac | gagctcatca | tcaagctcca | cagcttgctc | ggcaacaagt | 480 |
| ggctctctgat | cgcggggaga | ttgcccgga | gaaccgacaa | cgagatcaag | aactactgga | 540 |
| acaccacat | caagcgcaaa | gct | | | | 563 |

<210> 253
 <211> 397

<212> DNA

<213> Eucalyptus grandis

<400> 253

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| cctcgatgta | acgaaacgag | ctgcacgagg | aattttgccgg | tagagagata | aagaggagcg | 60 |
| atggagatga | agggaggggt | cgtcccga | gaggaggagg | cgtcgtcga | cgtggggcag | 120 |
| ccgccgccgc | cgccgccgcc | gccgccgcag | cccatggagg | ggctgggcga | agcggaggcc | 180 |
| gcgccgttcc | tgacgaagac | gttcgagatc | gtggaggacc | cggcgacgga | cccgatcgtg | 240 |
| tcgtggagcg | aggggaggaa | cagcttcac | gtctgggacg | cccaccagtt | cgccgtcacc | 300 |
| ctgctcccca | agcacttcaa | gcacggcaac | ttctccagct | tcacccggca | gctcaacacc | 360 |
| tacgggtgtg | tcgatgagta | tgatactgca | agtttta | | | 397 |

<210> 254

<211> 353

<212> DNA

<213> Eucalyptus grandis

<400> 254

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gaattacacc | caaccaaacc | aaaagagtca | taattcagga | tccaccttgt | ttagttaagc | 60 |
| aagaataatt | ttcccttccc | ttttctcttt | ttgagccctt | tagagttaca | tgtcttgggt | 120 |
| agcaatgacg | gggaactttg | ggtggggctc | aaactccatg | gaagaggcgt | ggaggaaagg | 180 |
| tccttggaact | gctgaggaag | acaagttact | cattgagtat | gtgaagttgc | atggggaagg | 240 |
| aagatggaac | tctgtagcta | ggctcacagg | gctcaagagg | aatgggaaga | gctgtagatt | 300 |
| gaggtgggtg | aattacttga | ggcctgacct | gaagagaggt | cagataaccc | ctc | 353 |

<210> 255

<211> 541

<212> DNA

<213> Eucalyptus grandis

<400> 255

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| accaccacca | gtaccaccac | ctccctctct | ctctctctct | ctctctctcc | ttttccctct | 60 |
| gttcgtgttc | ggtacgattg | cgaagcggaa | agcgaatgct | cctctccgga | ttgccatgaa | 120 |
| ctccaacgct | tcttccaacc | cccagtcgat | ggccacctcc | acgacgtcgg | cgaccacgcc | 180 |
| ggcggcgggc | ggcgacggcg | gcaagaaggt | caggaagccc | tacacgatca | ccaagtccag | 240 |
| ggagagctgg | accgaggagg | agcacgacaa | gttcctcgag | gccctccagc | tgtttgaccg | 300 |
| cgattggaag | aaaattgagg | attttgtggg | ctcaaagact | gtcattcaga | tccgaagcca | 360 |
| tgcccagaaa | tacttcttga | aagtccaaaa | gaatggggca | ggtgcacatg | ttccacctcc | 420 |
| tcgtcctaaa | cgcaaagctg | ctcatcccta | ccctcaaaag | gcacgaaaa | atgttttagt | 480 |
| gccgctgcaa | gcattccatg | cccagccttc | ttcaacaaat | cctgctttta | caattacacc | 540 |
| t | | | | | | 541 |

<210> 256

<211> 477

<212> DNA

<213> Eucalyptus grandis

<400> 256

| | | | | | | |
|------------|------------|-------------|-------------|-------------|-------------|-----|
| agatagtcca | agctctctgc | ctctctctct | ctctctcttc | tctatcttca | tcttcgtcgt | 60 |
| cttgatcgct | ctcatctcgc | tctcgcgaat | gttgctctct | gtcttctcct | ctgtccgccca | 120 |
| ttcaaagatc | acctattctt | tccgtttggg | ttgcgggtgac | taagaactct | ttctctctct | 180 |
| cgctctgtgt | cactcttgct | ttctcccgac | ttttctggga | ttgatgaaaa | tggcggaaag | 240 |
| atcgaactcg | tcggaccgcc | aaacaagccc | ctcgaactca | ccctccacct | cctcgtcttc | 300 |
| ttctcgtac | tcgcccagac | cgcgcgcgcg | ggccggctcg | cccgcgcgcg | cccgcgaccc | 360 |
| gttgagatcc | tccaagcgga | gcaagcacc | ggtgtaccgc | ggggtccgga | tgaggaaactg | 420 |
| gggcaagtgg | gtgtcggaga | tccggggagcc | ccgcaagaag | tcccgcattct | ggctcgg | 477 |

<210> 257
 <211> 351
 <212> DNA
 <213> Eucalyptus grandis

<400> 257
 ggaaatggag gtcaagggtt aggatggccg ggtttcaaca gttcccattg agttctgcag 60
 ttactgatgc tgtcagaaat ctattaaggg aatataacga gaattataga atcgaagaga 120
 aggatggagc tctttatctc tgggtggagga atcgagctat ggcaacttct tctgcgtggg 180
 ggtgaaactt gtgggttttg acgagtcctgt aaagttttgt actagttgta gttcatgttt 240
 agcttgatga ttagctttta ttctacttcc ataggatcaa gggagcaatg tctagaactt 300
 ccactacact gtcataaaat tcccaacttg aatttgaaaa aaaaaaaaaa a 351

<210> 258
 <211> 360
 <212> DNA
 <213> Eucalyptus grandis

<400> 258
 tgggtgtaggg ttccctgacg ctggggccga caatggccag gtgctggatg ctggggaccc 60
 actggccgag aagaaacttg aacttgcaac ctgccaaagg agggtagaag aagaaatgct 120
 gaaacattcc aaggcagtgg aagtgcagag gacaagtacc ttgaacaatc ttcaaacggg 180
 tctgccagga gttttccagg cattagccag tttttcatcc ttgttcatgg aggtccttga 240
 cacgggatgt acccggttctt atgctatcaa atagacatat gtatacacat tctttcgggc 300
 cggtattttt gttgaagtgg gaaagatgag agctgggtaa ttttggcggt tagctctcgc 360

<210> 259
 <211> 318
 <212> DNA
 <213> Eucalyptus grandis

<400> 259
 tccttcctcc ctccctctcg ccccttctga atagcccag atattttaatt ctctctcctc 60
 cgttttctctc ctccctccgc tcctcctcct ccatcatttc ctccctgaacc ttctggaatc 120
 cgtcatcgtc tcgccagctc cgatcttctc cccctcgctg ccatggccgc cccgccggcg 180
 gagcagagcg gctcggcctc cggcggagag agccagcgct ccgtcccccac cccgttctctc 240
 accaagacgt accagctcgt cgacgacccc gccatcgacg ccgtcatctc ctggaacggc 300
 gacggctcct ccttcacg 318

<210> 260
 <211> 503
 <212> DNA
 <213> Eucalyptus grandis

<400> 260
 cctaaatcag ctgcgaagtc gtcttatacct cttcgattcc tgaagaatcg tgctcgtctt 60
 ctctctctcc tcgacgatta agaatccgat tttgatcgcg gcggtcgatc gtcggcggct 120
 ccgattcggc ggccggcgag gcggaagatc ggttgctcgg ccgagcttcg cgtttttccg 180
 gtcgaatcg cgctgccggg tgaggttaggt gagtgtcggg atcgtgtttt tccggaggtc 240
 ttccgcgcggt cgcttctgtt tgatcggatt gtggtctgat tagcccccc taacttacgc 300
 cggcgtgttt gggttaggtt tcggttcggg tgggggtgtt tcgaagatgg acccgatgga 360
 tatagtgggg aaatcgaagg aggatgcgtc gtcccccaaa gcaactatga caaaaattat 420
 aaaggaaatg ctaccgcccg atgttcgtgt tgcacgagat gctcaagatc tattaatcga 480
 gtgttggtgta gagttcataa acc 503

<210> 261
 <211> 546

<212> DNA

<213> Eucalyptus grandis

<400> 261

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| agaagcgctg | agttcttggg | caaagtctag | cagtttcggg | ttctccatca | atcgagtcgg | 60 |
| agtgggagaa | aatgagcaca | aatggtttgc | tgaagtttga | ccaaagtctt | tagtgagatg | 120 |
| gttgctgtct | ccccgttctc | ctccaaacag | atgtctgac | aaataactta | cttgaccgcc | 180 |
| agtatgaact | ctccttttagc | ccagcttggt | aacccaagaa | ggatgcacac | ctacgagcca | 240 |
| tttgaccagt | tccccatgtg | gggagacacc | ttcaaagctg | acaagggtcaa | aaatctcgag | 300 |
| gcatcgatcat | ctgtgatcgt | gcatgcagta | gatgatggat | tggacaagaa | gtttgaatat | 360 |
| gtttctcatg | aatcggcaga | aaattccagc | tccaggagcg | atcaagaagc | aaatagacct | 420 |
| gacaaggtag | agagacgtct | agcacagaac | cgtgaagctg | ctcgaaaaag | ccgtctgcgg | 480 |
| aagaagaaat | atgtacaaca | actagaatca | agccgcttga | agctagcaca | gttggagctg | 540 |
| gaactc | | | | | | 546 |

<210> 262

<211> 883

<212> DNA

<213> Eucalyptus grandis

<400> 262

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| gcttcgtgta | cgggatcatt | cccgagaagg | gcaagccagt | gagcgggtgcc | tccgacaatc | 60 |
| tccgagcctg | gtggaaggaa | aaagtgaggt | tcgaccggaa | cgggcccgcg | gcgatcgcca | 120 |
| agtaccgggc | ggaccactcg | atccccggga | acggcgagga | cgcgccacc | atcgggcccca | 180 |
| ttcctcacac | cttgcaagaa | ctgcaggaca | ccactctcgg | gtcgctctta | tcggctctga | 240 |
| tgcagcactg | caatccaccg | cagcggcgat | tcccgtctga | gaaggcgctg | gtcctcctcg | 300 |
| ggtggcctac | aggagaagag | gagtgggtgg | cccagcttgg | cctgcccgcg | gaccagggac | 360 |
| ctccgcccta | caagaaacct | cacgatctca | agaaggcttg | gaagggtgag | gtcctcacgg | 420 |
| ctgtcatcaa | gcacatgtcg | cgggacatct | ccaagatcag | gaagctcgtc | cgtagagta | 480 |
| aatgtctgca | ggataagatg | accgcaaagg | agagtgccac | gtggctcgcg | ataatcaacc | 540 |
| aggaagaagc | tctgtccagg | aaattgtacc | ccaatagctt | cccggccgtg | tggtcggaca | 600 |
| gtggatttgg | gtcctatgtc | atcagcgatg | ctagtgatta | tgatgtggaa | ggagctgatg | 660 |
| atgaaccaaa | gttcgaggcg | gaggaatgca | agccttttga | tccaagtgtc | tttggcatcg | 720 |
| ggccaagggt | gtctacaggc | gagcttttga | tccatccact | ggtttctcaa | atcaaaggag | 780 |
| aagttaatga | aaccaaaacc | aattcgcggc | tagtttcaaa | gaggaatcaa | ccatccgatg | 840 |
| agccgaaggc | gaagatggat | cagaagatat | acacatgcga | gtt | | 883 |

<210> 263

<211> 454

<212> DNA

<213> Eucalyptus grandis

<400> 263

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| gttcgacgag | ttcacagcga | gctgacaaat | cattgatcat | ggagcatgag | tttagttcgg | 60 |
| ctaaaatcaa | agctcttctt | gagattctac | agtcgcaatg | cagaggagaa | agtgcaaag | 120 |
| cagagcttca | tgggtcccatg | ggctgtgacg | atgagctctc | ttttgaaaat | acaggcaccg | 180 |
| gggattctac | atacagagtt | aaagctgtta | agcacacaac | tgtttattca | agttctcctc | 240 |
| ctgaaggacc | aattaaagca | attgtctttt | ctcagtggac | gagtatgtta | aacttggttg | 300 |
| aacaaaatct | gatccatttt | ggcataaatt | atagacggct | tgatggaaca | atgacccttt | 360 |
| ctgcaagaga | caaagctgtg | aaagatttta | acaccgatcc | tgagatagtc | gttatgctaa | 420 |
| tgcatataaa | agcaggaaac | cttgggtctaa | acat | | | 454 |

<210> 264

<211> 579

<212> DNA

<213> Eucalyptus grandis

<400> 264
 agtgaattcg gtggggagtt aatgaatcca agaagcaact ggctaattgt atataatgat 60
 gatgaggggtg acatgatgct tgttggggat gacccgtggc aggaattttg tggcattgtc 120
 cgaaagattt ttatttatac tagagaggag gttcaaaaga tgaagccagg gactattagt 180
 gccaaagatg aggacaattt gatggctgat gaaggggtgt tttcaaagaa aatgacttcg 240
 gacacgctgc cttcggcgctc tgacccaaag aactgttaaa attctctcat gtctgtgagg 300
 tctttaaagt cattggagaa gcctaatacca gccgctacag ttccctgatg ctgaaattca 360
 tctttgtcca cggggactgc acataatctt ctctgtctat atcctctgtg cttcagtgc 420
 cattttctgc cccgcaaagc cgtatttgta tcatcaatgg gattcttgga tttggcttca 480
 agatgcatgg cccctgagg aggccagaga gcctgacaga gaactacggc agattgaaaa 540
 ggagagaaat gaggcctgtt cgtattcagc attttgaga 579

<210> 265

<211> 366

<212> DNA

<213> Eucalyptus grandis

<400> 265
 atcgaggccc tgaaaaaacg gttggacgat gtgaatgcc aagtatgcggc ctcggtcgag 60
 ttcaccaagg ccatggcact gaaccacctc aagaacggcc tgcctcgcgt ttttaaggca 120
 ttgatggaat tctcaggtgc ttgactaag gtattcgagg ctttgaataa cccccgcgag 180
 caggtaggca gtcgtgagaa tgagccgcgg gttttgcctg cgtgatttca tggatgcctc 240
 aggccgtgtg tataatttgt ttcaacattt ggtaaaccctt gataagggtg cattgcattt 300
 gcatagaaat actgtgaaat tcttttttaa ttttggtttg atcttagctt gaaaaaaaaa 360
 aaaaaa 366

<210> 266

<211> 376

<212> DNA

<213> Eucalyptus grandis

<400> 266
 gcagattctc cccccgaacg ccaagatctc gaaggaggcg aaggagacga tgcaggagtg 60
 cgtttctgag ttcacagct tcgtcacggg tgaggcctcg gacaagtgcc acaaggagaa 120
 gcgcaagacc gtgaacggcg atgacatcgt ctgggcactt ggggtccctag ggtttgatga 180
 ctatgccgag ccgctcaagc ggtacttaaa tcggtatcgg gaggtcgaag gggagagggc 240
 cagccaaaac aaggtcacag gcggcgaaac aagaaacgag aagaacttgt acggggatga 300
 gtcgcccggg aagcagctgg gcgctgcctc ttcgtcgcct ctgaagttct ttgatgtggc 360
 cgacaggagt accaat 376

<210> 267

<211> 341

<212> DNA

<213> Eucalyptus grandis

<400> 267
 gtcaactcgg tgttcgagct gcacaagctg ctggcccgcg cggggggcgat cgagaagggtt 60
 ctgggcgtgg tgcggcaggt gcggccggcg atcgtgacgg tggtcgagca ggaggccaac 120
 cacaacgggc cggctctcgt ggaccgcttc aacgagtcgc tgcactacta ctccaccttg 180
 ttcgactccc tggagggctg cgccagcacg caggacaagg ccatgtcgga ggtctacctc 240
 gggaagcaga tctgcaacgt ggtggcgtgc gagggcgccg accgggtcga gcgccacgag 300
 accctcgccc agtggcgggt ccgcctcggc ggcgcggggt t 341

<210> 268

<211> 343

<212> DNA

<213> Eucalyptus grandis

<400> 268
 tcgctgttca atacctccaa gtcgaacaag cacctctggg agcagatctc gtccaagatg 60
 agagagaaaag ggttcgatcg ttccccgacc atgtgcacgg acaagtggag gaacctgctg 120
 aaggagtata agaaggccaa gtaccaggat agaggatccg cgaagatgtc gtattacaag 180
 gagattgagg agattctgag ggagaggagc aagaataatc agtataagag tccgacggcc 240
 tcggctttga aggtcgatcc ctacatgcag ttttctgaca aaggcattga ggatgctggg 300
 atgactttcg gacctgtaga agcaagtggg aggccgactc tca 343

<210> 269
 <211> 546
 <212> DNA
 <213> Eucalyptus grandis

<400> 269
 atgacctcga actaaaagtg cgagaactgg aaactgtcat gctaggaccc agctcagata 60
 tgccccacac gggtgatatc aacttcttgg ttggatctgg ccagatgtct caggagacgg 120
 agacattgat ggagattatc tccaggaggg acctaaaagga gattctctgt gcttgtgcta 180
 aagcagttga agacaacgac accttaaaat ttgagtgttt aatatcagag ttacgcccga 240
 tgggtgtctgt ttccggtgac ccgatccaac gattatcagc atacatgttg gaagggctca 300
 tagcaagatt ggcaagtctg ggaagctcta tttacaaagc tttaaagtgc aaagagcctg 360
 ctggtgcaga gctgctatcg tacatgcaca ttctctatga tatatgtcct tatttcaagt 420
 ttgggtacat gtcggcgaac ggatcaatcg cagaagtcag gaaggacgaa aacattatcc 480
 atataatcga ttttcagatt gctcagggag gccagtggat caccctgatt caggctcttg 540
 cagcac 546

<210> 270
 <211> 283
 <212> DNA
 <213> Eucalyptus grandis

<400> 270
 cccattttc ccgtttctcc catattcctc aagcactctc atttagggaa tgagtgccta 60
 gaagccacct caagtttcaa atttttttcc tgcgcagttc tcaattcaaa tggcacgtag 120
 ctcatgtaat cagaaaactga ggaaagggtt atggtcgcct gaagaagacg agaaaactgtt 180
 caattatata agtagacatg gggtgggatg ctggagttcg gttccgaagc tagctgggtt 240
 gcagagatgt ggaaagagtt gcagattgag gtggatcaac tat 283

<210> 271
 <211> 377
 <212> DNA
 <213> Eucalyptus grandis

<400> 271
 atttcttctt gggtcttgat agaagattga aggttctaga acaagaggaa gaaagctagt 60
 gcaaaaagaaa gaaagtaaaa agaggtatct ctgctgcttt attagtttat tgtggagtat 120
 ggcaagtgga atggagaacc ggggggaaat tcctgcgaat ttgaagaaac agcttgctct 180
 ggctgtgaga aaaatccaat ggagctacgg aatcttctgg tccatctcaa ccagacagcc 240
 tggggtcttg gagtggggtg atgggtacta caatggagac atcaaaaacca ggaaaaaat 300
 tcaagctgtg gaacttaata ctgaccagat tgggtatgcag agaagcgagc aactgaggga 360
 actatatgag tctctat 377

<210> 272
 <211> 548
 <212> DNA
 <213> Eucalyptus grandis

<400> 272
ggaatatcca gaggaatgag taccataatc tttttaactt catcagtggg aagggggttga 60
agatcatgaa cttgggagag cagggcgctg atggagtacc aggcgttctt gatgtggatg 120
acgacgatgc tgtcgatccc catcttgagc gcatcaggat tgaagccggt gtagatgaaa 180
gtgatgaaga ggatgaagat tttgtcattg ataaggatga tggaggatct cctactgatg 240
attctggaga tgacgagtcc gatgtcagtg aaagtggaga tgagaaggag aaagagaagt 300
atgggaaaaa ggaatctcga aaagaagtca aagcatcatc aagcaagaag aaagcaaaaag 360
ctggagatga agaggggtcg aagaagaaga aacagaagaa gaaagacccc aatgcaccaa 420
aaaaggctat gtctggttat aactttttct tgcagacgga aagcgagaaa atgaagagaa 480
ctaattcccgg tctttccttt ggggatgtat caagagaaat tgcagacaag tggaggggtt 540
tgtcagcg 548

<210> 273
<211> 420
<212> DNA
<213> Eucalyptus grandis

<400> 273
tctctctctc tctctctgtg aagatcctct ctagegataa atcactgttg cccatttctt 60
ccttggctcc gttctgttgc ttctctctctc tgtcttcgac acttcaactg tgcgagccca 120
aaaatcgatc cttttctgct tcctttttgcc tctgttccaa gagtcaattg atactgggtc 180
gatctggctg gcaacttttg ttggaagttt gaggaatctg attgagagaa gaggtagatc 240
taaaggatca aaaggatgtc atttaccggc acccaagtta aatgcaaggc ttgcaaaaag 300
acagtttatc ctgttgaaca gttatctgct gatgggggtg cataccacaa gtattgcttc 360
aagtgcagcc actgcaaagg cacattaaag ctgagcagct actcctcaat ggaaggagtt 420

<210> 274
<211> 454
<212> DNA
<213> Eucalyptus grandis

<400> 274
gataaatcgt cttcaccagt acctccgcag gatcagacgg gtgttcattg ttatcatcct 60
gattgggctg ctatgcatgc atactatggg ccaagagtgt ctcttccgcc ttattataat 120
tctgctgtat catctgggtc tggctcctcat ccctacatgt gggggccacc acagcctatg 180
atgccaccat atggggccacc ttatgctgca atatactcac atggagggtg ttatggacat 240
cctgcaattc ctcttactcc gactcccttg gctgcggaaa ctcttaaaaa gtcactgct 300
aattctgata atggactggg gaagaagttg aaaagttttg aagggttgc aatgtcaata 360
ggcagtgggg gggatgcaga cagtgtgac gatgggactg ataaaagggtc atcacagagt 420
gcagactcgg gagactcaag tgatgaggat caat 454

<210> 275
<211> 620
<212> DNA
<213> Eucalyptus grandis

<400> 275
gcgatttaaa cagctactgg aggaggcatc acaggatatt gatcacacaa ctgactatta 60
cactttttaga aagaaatggg gcaatgatcc acggtttgag gccttggtatc ggaaagatcg 120
agagaattta ttgaatgaaa gggctcctccc tttaaaaaag gctgctgaag aaagggtc 180
agcaatgcgt gctgctgccca cttctagttt taaatccttg cttcgagata gaggagatat 240
aactgtcaat tcccgttggg ccagggtaaa ggatagtctc agggatgacc caagatacaa 300
gtcagtgaag catgaagaca gggaggcctt gttcaatgag tatatagctg aattgaaggc 360
tgtggaagac agagaagaaa aggaggcaaa agctaagagg gaagagcagg agaagctgaa 420
ggaaagggaa agagaattgc gaaaacggaa ggaaagagaa gaacaagaaa tggagagggt 480
acgagtgaaa atacgcagga aagaggcaat tgcactcttt caagcattgc ttgttgaaac 540
aatcaaggac cctcagcttc ctggacagag tcaaaagtta aacttgacaa agatcctcag 600

gacgtgacgag taatcctgat

620

<210> 276

<211> 340

<212> DNA

<213> Eucalyptus grandis

<400> 276

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gagataaaga | actactggaa | tacaagaatt | aagcgactgc | aacgcactgg | catgcctata | 60 |
| tatccaactg | aggtttgtct | gcaagtgtca | agtgagaatc | aagaaactca | taacatgggt | 120 |
| aacttgcata | ctgcaggcga | agataattgt | gatctctcac | aggcagatcc | actcgagatc | 180 |
| ccagagggtg | atttttagaaa | actggaactg | catcttggtt | tctcgtcttt | ttggtctaca | 240 |
| cttctggacg | ttcctccttg | tggctttggg | agagaggcaa | tgtgtctatc | tgatgcttac | 300 |
| tgccttccat | ttccatcaag | ccggtctcct | aaacgccttc | | | 340 |

<210> 277

<211> 351

<212> DNA

<213> Eucalyptus grandis

<400> 277

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|-----|
| cgacgacccg | cataccgct | gccaatctgg | aggacctatt | tgacaacccat | aacatggctc | 60 |
| gaatacggga | cgtatgggcc | ccgaatcttg | agatagagat | gcagaacatc | cgcgaggcca | 120 |
| tcgagaaata | ctcgtatgtt | tcaatggaca | ccgagttcct | gagtggggcg | cggcccatag | 180 |
| gtaacttcaa | aacgtcctcg | gactaccact | accagacgat | gcgctgtaac | gtcgaccttc | 240 |
| tcaagatcat | ccaagtcggg | atcacgctgg | cagacgagga | gggggttggtc | ccgcaggact | 300 |
| gctctacgtg | gcaagttcaa | ctttaaaattt | agtctttggc | gacgacatgt | c | 351 |

<210> 278

<211> 337

<212> DNA

<213> Eucalyptus grandis

<400> 278

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gcagccgagt | cgagcaagaa | actaacgaac | gcccgggtgc | attaggattc | ataatccaca | 60 |
| agaacaaaag | aaaaaaaggat | catgggaaga | tccccatggt | gcgaaggcaa | tggcctgaag | 120 |
| aaagggccct | ggtcttctga | ggaagacaag | aagctccttg | attttatcca | gcagcacggc | 180 |
| catgggagct | ggatctctct | ccctaaacgt | gcaggtctta | atagatgtgg | caagagctgc | 240 |
| agattgagat | ggataaacta | cttgtggccg | gacatcaaga | gagggagttt | ctccccggaa | 300 |
| gaagaacaaa | ccatcttgca | tctccactcc | gtgctcg | | | 337 |

<210> 279

<211> 383

<212> DNA

<213> Eucalyptus grandis

<400> 279

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| ctccaacgcg | cgctttcttc | tcttggactc | ctctgagctc | tctccatctc | ctccggctcg | 60 |
| gcgcggccgt | cgctcgacgg | cgacgactcg | agggtttcca | tataattcac | ttgaaaagaag | 120 |
| ctgcagaatg | ccgtggaaaa | caggacttac | cggctctaaa | acggaagaag | ataaggctct | 180 |
| gcagctttgt | cgggagagaa | aaaaatctgt | taggcaagct | gttgatgggt | ggggctccct | 240 |
| tgtgtatgca | catttcatgt | ttgtgcaatc | attaaggaac | gtagggacag | ctctcacaaa | 300 |
| gttctttgaa | acagaatctc | caaattgggtc | tccctcgtat | gcctcaatga | gtacaacacc | 360 |
| tgagccaatc | gcattaaccg | aga | | | | 383 |

<210> 280

<211> 312

<212> DNA

<213> Eucalyptus grandis

<400> 280

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ggtttgctca | gatgcagcaa | gagctgcagg | ctcagatgga | ctaattacct | ccgtcccggg | 60 |
| atcaagcgcg | gtagcttcac | ggaccaagag | gaaaagatga | tcgtccacct | tcaggctcct | 120 |
| cttggttaata | ggggggcggc | catagcttcg | taccttcctc | agaggactga | caatgatatc | 180 |
| aagaactact | ggaataccca | tttgaagaag | aagctgaaga | agcttcaagg | ccaagcaaat | 240 |
| cctgatgatg | atgaccataa | tcatacccca | caagggttca | acgcaacttc | acactccaac | 300 |
| cccaagggcc | ag | | | | | 312 |

<210> 281

<211> 311

<212> DNA

<213> Eucalyptus grandis

<400> 281

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gagatggcga | ggacaccatg | ctgtgagaag | atggggatga | agaaagggcc | gtggactcca | 60 |
| gaggaagacc | agatcctgat | ctccacatc | caccagtttg | gtcactcaaa | ctggcggtga | 120 |
| cttcctagac | aagcaggtct | gttaagatgt | gggaagagtt | gcagactccg | gtggataaac | 180 |
| tacttgcgac | ccgacgtgaa | gcgaggggaa | ttcaccgacg | acgaaagaga | caccatcatt | 240 |
| gaacttcatt | aagtctcttg | caacagatgg | tcggccatag | cctcgagatt | gccggggcga | 300 |
| acggacaatg | a | | | | | 311 |

<210> 282

<211> 378

<212> DNA

<213> Eucalyptus grandis

<400> 282

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| catggacagc | tgaagaggac | aagaagctca | tcaacttcat | cctcaccat | ggccaatgct | 60 |
| gttggcgggc | tggtcccaag | cttgctggac | tgctgcggtg | tggaaagagt | tgagggtgga | 120 |
| ggtggaccaaa | ttacctgagg | ccagacttga | agagaggcct | tttgtccgag | tatgaagaga | 180 |
| aaatgggtcat | tgacctccat | gcgcaacttg | gcaacagatg | gtcgaaaata | gcctctcacc | 240 |
| tcccgggaag | aacagacaat | gagatcaaga | atcactggaa | cactcacatc | aagaagaagc | 300 |
| tcaagaagat | gggcattgat | cctctcactc | acaagccatt | agtcaccaac | aacgacaaca | 360 |
| caaccgatca | acaacccc | | | | | 378 |

<210> 283

<211> 389

<212> DNA

<213> Eucalyptus grandis

<400> 283

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| ctccctcctc | ctccaaacgt | ttccgtttct | ctccaagctg | aacatggaca | agaagccaga | 60 |
| cgacgacagt | ggtaagtccc | aagatgtcga | ggtgagaaaa | gggccgtgga | cgatggaaga | 120 |
| ggatctcatc | ctcatcaact | acatagcgaa | tcacggcgaa | ggcagttgga | actccctagc | 180 |
| caaaagctgct | ggtctaaaaac | gtaccgggaa | gagttgtcgg | ctccggtggc | tgaactatct | 240 |
| gcgacccgac | gtccgggagag | gcaacatcac | tactgaggag | cagctcctga | tcatggaact | 300 |
| gcatgccaaag | tggggaaaaca | ggtgagatgc | acataagtca | cacaactttt | cgttacatag | 360 |
| gttctacaac | ataataccca | tcgatcata | | | | 389 |

<210> 284

<211> 385

<212> DNA

<213> Eucalyptus grandis

<400> 284
 ccaatggtga cagtgttaag gatgaccttg atacagatga atatgaaact catgccacag 60
 ttttggataa gctatttagca tgggagaaaa agctctacga agaagtgaag caaggtgagc 120
 acatgaagct agagtatcag aaaaaggtgg ctttgctaaa caagcagaag aaacgtggtg 180
 ctagtgggtga atccctggag aaaacaaaag cagctgtaag tcatttgcac acgacataca 240
 tagttgacat gcagtcctat gattcaactg cttcagaaat aaaccacata agggacaaac 300
 agctgtaccc aaagcttgcg caacttgctg atgggatggc gaatatgtgg gaaaaaatgc 360
 gcatgcatca tgataagcag gagtc 385

<210> 285
 <211> 461
 <212> DNA
 <213> Eucalyptus grandis

<400> 285
 caccggaac agtccatggt cagaattatt ctccaattca tcaaattgggc attgatggat 60
 tctttccagc gcatccctcc ccacagaatc cttcgtacca ttcttactcc cccaacaata 120
 gacccaattt cctctctcgg tccccctcaa cttcacagtg ggactatttt tggaaccctt 180
 tttcaccctt ggactactat ggatacccca ctcgagtag tattgatcat atggctatgg 240
 atgatgagac cagaggattg aggcaggtcc gagaggaaga ggggattcca gacttggaag 300
 aagaaactga gcacgaagaa tgtgatcacc actcgtatgt tgatgaagat agaggcaaca 360
 gagatgctaa tttccccact gaggaagttt tagtggaaga tgttgatgac gaggaagagg 420
 atgaggatga aggaaacaga cacagctgtg aatctgagga t 461

<210> 286
 <211> 438
 <212> DNA
 <213> Eucalyptus grandis

<400> 286
 gtactgcggg ctacgctgat ggaattgacc gacaggctgc ggtccttgaa ttcagtgcctt 60
 caggctcgtg aggtggttag cgggctcgcc atcgatatac ccgagatacc tgatccgctt 120
 atgaacccat ggcagctgcc ctgcccgatg cagccaatta cggcgtctgc cgacatgttg 180
 cagctgtgag catcagattg gaagtgtaaa agttggggct gattcttttg gagtccctt 240
 ctggggggat ggtagatcca tagccatttg ctgcttttgt ttttcttgct aattccgttc 300
 tctttcttga agttggaact ccaatatctg tatgcgtctg tctagatgga ctggcgcttt 360
 tatgtctgct tgacattgta cttggctgtt cttgcttggt acttatggga tgttcctgtt 420
 ctaaaaaaaa aaaaaaaa 438

<210> 287
 <211> 405
 <212> DNA
 <213> Eucalyptus grandis

<400> 287
 ctgaccttaa cagctgcaag cactgttata tttgcagagc tatcgtggac accgggtgat 60
 ctgatccaag ctgaagatcg tgctcacagg attggtcagg tatcttcagt taatatatat 120
 tacctgctgg caaatgacac tgttgatgac ataatatggg atgttggtcca gagcaagttg 180
 gaaaatttgg gtcaggtgct tgatggccat gaaaatacat tggaagtctc agccagccaa 240
 ccaactagaa acagccctgc aaagcaaaaa acctttaata gccctggcaa acagcataca 300
 tttaatagcc ctgggaagca gcaaaaattt aatagccctg gcaagcagac aacactcgac 360
 tcgttcatga agcgttgcaa tagtggtgac ccctctgaac atcag 405

<210> 288
 <211> 515
 <212> DNA
 <213> Eucalyptus grandis

<400> 288
 ccctcttccct cttcctctcc ctctctctgt cgcagagctc cgtctgaact cgcagaatcc 60
 acgcgcagag cgacccaaga gtgtttcaga acagtcctgc catggccttg gaagctatca 120
 actctccac cgcgccctca gcgcctgtcc agttcatgga ggagcccttg agctcccgt 180
 tcttgagacc cctgaacaag cgcaagcgct ccaagcgccc ccaccaccct ccctccgaag 240
 atgagtacct cgccctctgc ctcatcatgc tcgcccgcag cggcgccgcc cccaagccca 300
 accaccacgc ctgcgccgt cctcttctc ctctctctcc tcctgcgcc actaagcctg 360
 aagaagccgc ggcgaccgcc acggcaaccg cggccccggc gaataacttg agctacaagt 420
 gcgcctgtgc cggcaagggc ttccccctct accaggccct cggcggccac aaggccagcc 480
 accgcaagtc ggccgcgcc gccgcgccgc cgcgc 515

<210> 289
 <211> 375
 <212> DNA
 <213> Eucalyptus grandis

<400> 289
 ggcaattgct cttgtcctag ccaaacggga aatcatccgt agcataggca ctggattgga 60
 ctggctctca ccttcggcag gttcatcgac aagtttgctt gaaattaaag gaacccttgt 120
 catatgtcct gtggttgctg tgactcaatg gggttggtgag attaatgtct cactgcccc 180
 aggaagcact aaggtcctag tatatcatgg agcaaataga ggaaagactg ctgatcagtt 240
 caagaacttt gattttgttg taaccacata ttcacttggt gaaggcgagt acagaaaatt 300
 tgtgatgcc cccaagaaga agtgcattha ttgtgggaag ttgctttaca aggagaaaat 360
 gacagttcac cttag 375

<210> 290
 <211> 590
 <212> DNA
 <213> Eucalyptus grandis

<400> 290
 cccagattta ccaggagatg acttagcatt ggaattcgag gaattcgatt tccagagcct 60
 gttcgacgaa ttatcgccctg atgcgcggg cttctcgac gccagcgatg tcgatgcttc 120
 gtctccggga tcgctgtcct cgtggatcgg cgagatcgag ggcatgctga tgaaggacga 180
 cgaggaagcc gtcgccgtcg agccgagtca ggaggtcttc gatcgcttct tcgccggctt 240
 gctcgttgat tcccccgagg gcggaccggc cgaggcgacc gacggcgcg gcgacaagga 300
 gtccaattca tccgacggcg gcggcgggcg cggcgggcaa cgggatgaga agctggctcg 360
 cgagataac gagctttccg aggacgctga tgatgatgat cccgtctcta agaaacagag 420
 aaggcagctc aggaataagg atgcggcggc taggtcgagg gagagggaaga gaagttacgt 480
 gaaagagctg gagatgaaga gcaaataat ggaaggggaa tgccgcaggc tggggcggtt 540
 gctccagtgc tttgtggctg agaatcaagc tctgcgtctg aatttgagga 590

<210> 291
 <211> 307
 <212> DNA
 <213> Eucalyptus grandis

<400> 291
 gtgatttcga gtcagagcat gcaccttggg gttcttgcaa ctgcctccca tgctgtcaca 60
 actcaaactc tgtttgtagt ttattacaag ccaaggacta gtcaattcat cataagcttg 120
 aacaaatatt tggaggctct taacaataaa ttcacagttg gaatgagatt caagatgaga 180
 tttgaggggtg aggattctcc agagagaagg ttttctggta caattgttgg ggtggaagat 240
 ttctcacctc aatgggataa ttcaagttgg cgatcattga aggttactg ggacgaacat 300
 gcgtcat 307

<210> 292

<211> 209
<212> DNA
<213> Eucalyptus grandis

<400> 292
gttcaatcag ctcgacccga ggatcaacag gaagcccttc agcgaggaag aggaagagag 60
gctcttgact gcacacaagc tgtgtggcaa taaatgggcc atgatcgctc ggctcttccc 120
cggccggacg gacaacgccg taaagaacca ctggcacgtg atcgtcgcga ggaagcagag 180
agagcagtc c aacaacgccc gcggccgga 209

<210> 293
<211> 224
<212> DNA
<213> Eucalyptus grandis

<400> 293
ctcagaagta cttcatcagg caatctaacg tgtcaaagag aaaacgacgt tccagtctgt 60
ttgataattgt ggcagaggaa tcggttgatg tgccaatggg atcaaggagc ttctttgcgg 120
tcgacgagca acagcaggaa acagaagtaa atgatgcctt gcagcagctg ccacctgatg 180
ttgatgaaga atgtgaatct atggactcca ccaactcaaa tact 224

<210> 294
<211> 185
<212> DNA
<213> Eucalyptus grandis

<400> 294
ttctttcttct tctagacatg aatctcgaca tccaatccct cttctaacca atgggcagcc 60
gatgtctggg gaaatcccct gtgctagtat tgacagccca tctgttagga ctacatctgg 120
acctctgggt ccttttgata aacatgtgca ctgccttccc tatgttgatc ccagacagcc 180
agttc 185

<210> 295
<211> 428
<212> DNA
<213> Eucalyptus grandis

<400> 295
tcagcccgcc cctctccgcc cacgtggcca gccacaaggg gctccatcaa gcgagcaagc 60
ccaagatcca cgagtgaac atatgtgggt ccgagttcgc gtcgggtcag gccttgggag 120
gccacatgag gcggcacagg tccgccccgc cgccgacggc caccagcgcc gacgcgacga 180
gccccaccaa cccgcccggct gctgcggcca tcaccaccga gaagtcccg aacatcctct 240
ccttggaact gaacctgccg gccccgaacg gaggaggatc accaccacca agcgcaccgc 300
cgccgggaga actcgaagtt ccaattcgcc acaagtcaac agcccatcat actagcctcg 360
cccgccttgg tggattgcca ctactgaaaa aaaaagaaaa gacgggttca catgtcaatc 420
aatgtaac 428

<210> 296
<211> 418
<212> DNA
<213> Eucalyptus grandis

<400> 296
gcagtttcgg atattaattt gggtttccaat agcacacata gttcatatga agatggggga 60
agcccacgga gaattacatc agaaagtgc cctaaagatg ctccaatggg aactgagagc 120
cttttaagtg caccctgaagc agtagagctt tcagatacag ggacttcctt cacgttcaag 180
atggattcat ctatgcaaag gaaaccacca gtagatgaaa gcccaaggat gcatccgttg 240

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| cccatgaatc | taactactga | agagggagat | aacaatgttt | cgtgccaaact | aaatctatct | 300 |
| cttgcacatt | ctctactgca | agttgaccac | agtcaacaat | tcaatcgttt | gaatgtgcta | 360 |
| ggttcagaaa | ctagcaagtc | tccagatgca | aggtcaaatg | ccagcatcac | agaatctg | 418 |

<210> 297

<211> 250

<212> DNA

<213> Eucalyptus grandis

<400> 297

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| tgcacccaga | gtataactcg | agtccagtgg | gttacatgga | gaccaacaag | gctcgtttgg | 60 |
| tgttgagaaa | ggacgactta | gggttgaatc | ttatgcctcc | ttcgacttgt | taaggttctt | 120 |
| ggcgaatgatt | atgatattgat | gatcagtttt | tcctgcatta | tttgaagaag | ctgaggctga | 180 |
| ggtttcttgt | cttttctttt | tccttttttg | tatttttgaa | gaggttttct | tttctctatt | 240 |
| cccccccca | | | | | | 250 |

<210> 298

<211> 626

<212> DNA

<213> Eucalyptus grandis

<400> 298

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| agaacatagg | tgcgaaggcc | gatgtgttcc | acatactctc | tggcatgtgg | aagacgcccg | 60 |
| ccgagaggtg | tttcatgtgg | ttgggcggtt | tccgttcctc | tgaacttctc | aagatactag | 120 |
| ggaaccacct | ggagcctttg | acggatcaac | agttgatggg | catatgtaat | ctgcagcaat | 180 |
| cttcacaaca | ggctgaagat | gctttatctc | agggaaatgga | agctctgcag | caatctctcg | 240 |
| tggacacact | ttcttcgacc | acactgagtc | ctactgggtc | aggcaacgtc | gcagaataca | 300 |
| tgggccaaat | ggctattgcy | atgggaaagt | tggccactct | cgaaaacttc | gttcaccagg | 360 |
| ctgacctctt | gagacagcag | acgctccaac | agatgcacgc | gatattaacc | acccgccaag | 420 |
| cagcccgccg | tcttctcgtc | atcaatgact | acatctcacg | tctccgagct | ctaagttcat | 480 |
| tatgggttagc | tcgtcctagg | actgaaaaca | tctgttctgc | taaaactctc | tgatgtaatc | 540 |
| gatagttttg | attgaaatta | acgtttctag | tggggatcca | tttactgcga | ctgtagcgat | 600 |
| tcgggccaca | tttatataaa | agctat | | | | 626 |

<210> 299

<211> 438

<212> DNA

<213> Eucalyptus grandis

<400> 299

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aaagaagaga | ctaattggtc | catctgcatt | cggagaggac | gagaaagcgg | gtcgtcaaac | 60 |
| ccgcctaacg | gtggaggact | tgaactactt | gtttatggcg | tgattcggaa | ggtctaattt | 120 |
| tgcggatcgc | aacacatcat | ttactaacct | tagtgctgcc | tggtagagtt | tgttctgagt | 180 |
| agcggcagcg | gccttatact | tagtgatttc | gacagaagcg | attggctgga | gattgatcaa | 240 |
| ctttcctgct | tcaccattat | ttgttactgt | acagcgcgcg | acagatagca | acatctaaca | 300 |
| gtaaagatgc | aatttttttt | ccccctgaaa | atgtaaatga | tatagggttt | ttgttctatc | 360 |
| tctgtgctct | cctccattcc | ttatttgtat | acggagatca | caaacttgag | gtcagtgaat | 420 |
| ttgataatta | tgtcttgc | | | | | 438 |

<210> 300

<211> 345

<212> DNA

<213> Eucalyptus grandis

<400> 300

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctctcgttcg | cgttctccgt | ctcatccttc | cttttgccgg | tgggtttccg | gtcgagatag | 60 |
| cggagggttc | ctgattcaga | ggcgccggcg | ggcagcgacg | acgaggagga | gctccgacct | 120 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgaagcgctt | cggtccgatt | cctcccttgc | ggcgcgcgt | gtctgacgga | cgagtcgttt | 180 |
| tttggcggga | gatgagagat | ctgtgcctcg | accagagaga | aatggcgtcg | gggagctcca | 240 |
| gggtcgaggc | ccgagctgat | gcggagatgg | cgctctacaa | cgagctctgg | caagcctgcg | 300 |
| ctggctcctt | cgtcgccgtc | cctcgtcaag | gcgagcgtgt | cttct | | 345 |

<210> 301
 <211> 454
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 301 | | | | | | |
| catattttca | tgctgctacg | ccccgtcctt | tggcctgcat | ccatggccaa | tcagccaccc | 60 |
| ggtagacccc | aaccaaattc | gccaccgcca | ccgccaccag | ccccagcgat | ccaaatccct | 120 |
| gaccaaccac | cgcataattc | gccttcttct | tcttcttctt | cttcttcttc | ttcttcttca | 180 |
| ttggccacca | ccggtgatcg | gggcggttcc | tcgcctagac | cgatgctttc | ttcgagcggg | 240 |
| tcgtcgccgc | tggctcaatc | cacagggagg | caccgccttt | accgtggagt | ccggtccccg | 300 |
| agcgggaagt | gggtctccga | gatccgcgag | ccccgcaaga | ccaccgcgat | ttggcttggg | 360 |
| acataccgga | atcccagat | ggccgccgcc | gcctttgacg | tggccgcgct | ggctctgaaa | 420 |
| ggctccgacg | ccgccctgaa | cttcccccat | gatg | | | 454 |

<210> 302
 <211> 286
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 302 | | | | | | |
| tttcccgcaa | gggcacatgg | aacagctgga | ggcatcgaca | aatcaggaac | tgaatcagag | 60 |
| gattccgctc | ttcaacctca | cttccaaaat | tctttgccag | gtcgtgaacg | tccagctcct | 120 |
| ggcggagcaa | gaaacggatg | aggtttatgc | acagattact | ctaattccag | cgggaaatct | 180 |
| aatggagcct | acaagtcccg | atccagtctc | tgcggaaact | ccaagaacaa | gagttcatag | 240 |
| tttctgcaag | gttctaactg | cctctgatac | cagcacacac | ggtggc | | 286 |

<210> 303
 <211> 513
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 303 | | | | | | |
| cagaggacaa | ggtaaaaaag | gggcagccct | ctgctctgtc | tgaattgccg | tctctcccta | 60 |
| cttctctggg | cttctttttc | tttgcttccc | ttccttaaac | tctccctctc | cccgtttctt | 120 |
| gtctggtttt | tctgggtgct | ctcgtctttc | gctgctgaag | gagtgaattt | gaccgtcggg | 180 |
| ttcctttctt | gatectccaa | ttcgatcgtc | agctcctcgt | gtcgactttt | ttcgggtttc | 240 |
| ctgtcggcac | tgttcgattc | ggattcctcg | acggaatggg | gagtaacatc | aacttcaaga | 300 |
| acttcagcac | cgatccgacg | ccgacgaata | acaggcctcc | tggcaacacg | ctgttaaccc | 360 |
| ggcaaccgtc | ggtgtacacg | ctgacctttg | aggagtcca | gaactctata | ggcaaggact | 420 |
| ttgggtccat | gaacatggat | gagctcataa | agaacatttg | gtctgcagag | gagaaccaat | 480 |
| ctatggcatc | tgctagtggc | gcttgtgggtg | gcg | | | 513 |

<210> 304
 <211> 370
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 304 | | | | | | |
| ggcgattgca | tgcttcccat | gtgtagcatg | gtgtcagatt | tttgaactgt | taattgcatg | 60 |
| tgccgcaatc | ttcattccta | tcaattgagc | acttcaacag | gctttttcta | gtgggaagaa | 120 |
| gtctccaaca | aacatgacat | aggggatatt | ctggaaatag | ttatgaaaga | ggagaccccc | 180 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tttctaataa | ggaacttcca | tgcaggcatg | tggatcgtag | gaatattctg | agcaatacca | 240 |
| tgatgaagtt | aagccagcat | atggacctca | gatatcggca | cattctcagt | atctcgggta | 300 |
| caattccttg | agattggggg | tgcctctcag | agtggcggag | gaacctgttt | atgtgaatgc | 360 |
| caagcagtag | | | | | | 370 |

<210> 305
 <211> 503
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| <400> 305 | | | | | | |
| gcccgatgtc | cccctcccct | cccccgccgg | agacgtgacc | gatgccgagt | ggttctacgt | 60 |
| catgtccttg | acccgctctt | tctcggcggg | agacgggtatt | cccgggaagg | ccctcagcac | 120 |
| ggggctccttg | gtctggctga | ccggtgctcg | cgagcttgag | tcgtacaagt | gcgaccgggc | 180 |
| caaggaggcc | gagctccatg | gcatccgcac | catgggttgc | atcccgaactg | gtgatggagt | 240 |
| ccttgaattg | gggtcttgcg | atgtgatccc | tgaaaaactgg | ggccttggtc | aacgagccaa | 300 |
| gtctcttttc | ggctccgata | tgctccttcc | caagcaccgc | ccaccgccac | cacctccgtt | 360 |
| ccagctccac | catgaccata | gcgacatttc | tttcgctgac | attggaataa | ttgcgggcgt | 420 |
| tcaagagaat | gatttcgctc | ctcacgatga | ccacgagaag | aagggtcaaga | agaagcagcc | 480 |
| gctggtggaa | ggagctggcg | gga | | | | 503 |

<210> 306
 <211> 377
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 306 | | | | | | |
| atgtcgttg | aatgacgca | ggccgtcgtg | acggcattct | gaagagcgag | aagacgcgac | 60 |
| atgtcgtcaa | gattggcccc | atgcatttga | agggcggtg | gatcccttac | gagcgggctc | 120 |
| tcgagtttg | caaccgggaa | aagatcaccg | agtatctcta | cccgtgttt | gtgcatgaca | 180 |
| ttggcgcgct | gctctatcat | ccgagcaacc | ccagcggcgc | caccagccgt | gcgggcaacg | 240 |
| cgcagaacac | gcttgccgcc | atcgatcgtc | gcaggaacga | ggcgcgcagt | gcgggcaagca | 300 |
| tccaggggca | ggcggtgagc | ggagtattgg | tctctcccgt | cgcccagacc | gcaggcggcc | 360 |
| gacccagcgt | cgaccgc | | | | | 377 |

<210> 307
 <211> 361
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| <400> 307 | | | | | | |
| aataatctct | ctctctatga | caatggagtg | ggtagtacac | cacgccccag | gtcaaatgct | 60 |
| gaacagttaa | ttttccgagc | ggcattgcag | gatctctctc | agccaaaatc | agaagaaact | 120 |
| ccacctgacg | gtgctctggc | agtacctctt | ttgaggcatc | agaaaattgc | cttgtcatgg | 180 |
| atgggtgaaaa | aggaaaccgc | cataaattgc | tgtgggggaa | ttcttgcgga | tgatcaggga | 240 |
| ctagggaaga | cagtatcaac | tattgctctt | atacttaagg | aaagacctcc | aaccttcaaa | 300 |
| caatgtcagg | agaatccaaa | gcaggagtta | caaacttttg | atttggtatga | ggatgaaaat | 360 |
| g | | | | | | 361 |

<210> 308
 <211> 357
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 308 | | | | | | |
| gccctctacc | tctccccctc | cctctctccc | tctacacctc | gctctcgctt | catgatctgg | 60 |
| gtggacagag | ggtgttcccc | catagatcca | tcactcgctc | gtgttacttc | ggcgcaaaaa | 120 |

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| aggctttgtt | ttgggacctg | ggtttgtgtc | gatttggctgt | ttttgtgaac | tcccgaatag | 180 |
| tgatgtcgtt | gtcggccaag | agcagagtcga | ttcaaattcg | ggacgtgtgg | gatgataacc | 240 |
| tcgacgagga | attcgcgcga | atccgcgaga | tcgtcgacga | ttatccgtac | gtggccatgg | 300 |
| acaccgagtt | cccgggtatc | gtcgtgcgcc | ctgtgggcaa | cttcaagaac | tccagtgt | 357 |

<210> 309
 <211> 433
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 309 | | | | | | |
| ccgcggtctt | ctttcttcca | aagtaaactc | aacttcttcc | ttcctcccca | ccggcaagaa | 60 |
| aagtctcccc | gacctctct | cgccattccc | ggcctcgccg | tccggctgaa | ttgtcgacgt | 120 |
| tccggctcgc | tccggcgccg | actggaggcc | atggcggtat | cggacaacga | ctcggggggc | 180 |
| cacaacaacg | cgaacagcga | gtcggcgccg | gcgctcgccc | gcgagcagga | ccggttcctc | 240 |
| ccgatcgcca | acgtcagccg | gatcatgaag | aaggcgctcc | ccgccaacgc | caagatatcc | 300 |
| aaggaggcca | aggagaccgt | gcaggagtgc | gtgtcgaggt | tcataagctt | cataacgggg | 360 |
| gaggcgctcg | acggcagcag | cagcatcggc | ggcgcgccg | ggggcgctgt | gaacagcggc | 420 |
| gggggctccg | cgg | | | | | 433 |

<210> 310
 <211> 511
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| <400> 310 | | | | | | |
| ggaagatcaa | tccagatcga | tgggagtttg | tgaaccaagg | ttttcagaaa | gggaataagc | 60 |
| acttgctgaa | gaatataaag | aggagatgca | aattcagtga | gcatagaaaa | acatcgagta | 120 |
| gtactgtcac | ctctgattac | cagaaagctg | aaaaatgaag | ggaactcaac | acgtttaaga | 180 |
| agggccagga | agtgttgaag | accagatccc | ttaaaactaag | agaagagcgg | aagagctttc | 240 |
| agcatgagat | tgagcaagtc | gcagagcggg | ttcgccatgc | tgagtgcagg | aaccagcaga | 300 |
| tattcctctt | cctcacaaaa | gcagccaaaa | gcccactt | tgtccatcat | ttaatccaga | 360 |
| agaagagcca | gaagagagat | ttagagactt | tgtaatcaag | caagaagagc | aaattgcttg | 420 |
| gttccgatgc | tgaagccacc | aaattcttga | atgaagcaat | ggatcacatg | attaaaagcc | 480 |
| caaacgttga | ttgcctgaga | atcagtgatg | a | | | 511 |

<210> 311
 <211> 799
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 311 | | | | | | |
| ggaattcttg | cagctgcagc | tcagtctgcg | gcgaacaaca | gccctttcac | tatatatttac | 60 |
| aatccgaggg | caagtccttc | tgaattcgtg | atccccctgg | ctaagtacaa | taaagcattt | 120 |
| tataactcaag | tttctcttgg | catgagattc | agaatgatgt | ttgagaccga | ggagtcggga | 180 |
| gtccgaagat | acatgggtac | aatcactgga | attagtgtat | tggattctgt | gagatggaaa | 240 |
| aactcccagt | ggcgcaatct | ccagggtggg | tgggacgagt | cgacagccgg | tgaacgacca | 300 |
| agcagagttt | caatgtggga | aatagagcct | gttgtaactc | ctttttacat | atgtccacct | 360 |
| cctttttttc | ggcccaagtt | tcctaggcaa | cctgatgatg | agtctgatgt | agaaaatgct | 420 |
| ttcaagaggg | ccatgccttg | gcttggagat | gagtttggca | tcaaggacac | gcctaactca | 480 |
| atcttccctg | gcttgagtgt | gatgcagtgg | atgagcatgc | agcagagtaa | tccacttcaa | 540 |
| gccactcaat | ctggacttct | acctccaatg | ctttcttcca | ctggtttaca | caataacctt | 600 |
| ggcatcgacg | acccctccaa | attgctaagt | ttccaagccc | ccaccaagg | tcttcaattt | 660 |
| aataaaacga | atccacaaaa | tcaagtcagt | caattgctgc | aaccgtctat | ggcttgggtc | 720 |
| caacagcacc | agcttcagca | actgttgacg | aatcctctgg | gccaccagca | gcagcagcag | 780 |
| cagcagcagc | tgacgcgcc | | | | | 799 |

<210> 312
 <211> 304
 <212> DNA
 <213> Eucalyptus grandis

<400> 312
 gtaccttcca tgaaaccaga atatccggtt ccaaattggaa ttggagcatc ggacttttggg 60
 gaatctttca ggttccagaa ggtcttgcaa ggtcaagaaa acttgggttt tggcactcct 120
 tacgatggta tcgaaactca aagtcacatc ctatctgaag tgaggaggca tcacccctgat 180
 gattcaggtg gttctgaagc tgctgccacc agaaatggca tcacaaaccc atccgtgaat 240
 gctagtgtca cttacaaaag catgggcttt ggcaaatctt tccggtttcg tgaggctctg 300
 caag 304

<210> 313
 <211> 427
 <212> DNA
 <213> Eucalyptus grandis

<400> 313
 cccccctctc ccttctgtcc tccgccctcg atccccaaaa cctcctctcg aatcgattcc 60
 ggcagccccc tccggccacc gccccctccc gccgcaatgg acgcagcgcc gccggggcggc 120
 ggcggaggcg gaggcggccc ggcgccgttc ctctgaaga cctacgagat ggtggacgac 180
 gcggggacgg acgagatcgt ggcgtggagc tccggcaaga cgagcttcgt cgtctggaac 240
 ccgcccagat tcgcccgcct cctgctcccc acctatttca agcacaacaa cttctccagc 300
 ttcattccggc agctcaacac ctacggattc cgaaaaattg atcctgagcg atgggagttt 360
 gctaattgaag aattttgtga ggacaaaaaa catcttctca aaaacatcca ccgtagaaag 420
 cccatcc 427

<210> 314
 <211> 308
 <212> DNA
 <213> Eucalyptus grandis

<400> 314
 ttcaagatgt aaagggaaag gaagtgggtg tttcagttca gattttggcc caataataac 60
 agcagaatgt acgtgttgga ggggtgtaact ccttgcatc aatctatgca gttacaagct 120
 ggagacactg taacttttag ccgcatggac cctgaagcga aacttataat gggtttccgg 180
 aaagcatcaa cctctatgat gcaggacagc caactagctg ctgtttctaa cggtaaccat 240
 tcaagtgaag ctttgatttc tgggtggttt gaaaatgtac ctatgataag tgggtattcg 300
 agtctcct 308

<210> 315
 <211> 92
 <212> DNA
 <213> Eucalyptus grandis

<400> 315
 agaactggaa aggctgaatc agagtgtctt tgtccccgta atagtgggct gctggatgag 60
 ttagttcacg agtcgaagac tatgagcagt gc 92

<210> 316
 <211> 764
 <212> DNA
 <213> Eucalyptus grandis

<400> 316
 agagagacga ccggacgggtg gaaaagagag agagagagag agagagagag agagaagatt 60

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gcgatgtagc | cggcgacgat | cctagaatct | gaagctgccg | agcctaggcc | gtcgattttc | 120 |
| ttaagcccgt | tcttggtgct | gctgttgccg | ttgctgttg | tggtggtggt | gctgctgctg | 180 |
| ctgcagtgat | tgtttcttcc | agctttttct | gtggcggaat | agagctgcag | ctcgctcgggg | 240 |
| gctcgtctgc | tcccgtgtt | cccttcccct | ccccgtctcc | tgagtagggg | tgcggaagtt | 300 |
| ttccggcggt | ccgtctgcgc | accaccgatc | gacgaggagg | cgcgctccgt | cttcggattc | 360 |
| gggacgccgg | ggatatggct | tctcacgagg | tctccgtcgt | ggggagcgac | cggagggaga | 420 |
| gggagaggac | gggctgcgag | gacgccttgt | acaaggagct | gtggcacgct | tgcgccggtc | 480 |
| ctctggtgac | ggttcctcgc | gaaggggagc | tggtttatta | cttcccgcag | ggcatatcga | 540 |
| gcagattgag | gcgtcgatga | atcaagtcgc | cgatcggcag | ataccgtttt | acaatcttcc | 600 |
| ctcaaagatt | ctctgccgtg | tcattaatgt | tcaattgagg | gctgaaccag | agaccgatga | 660 |
| gctgtttgct | caagtgactt | tgttccgggt | gcctaaccaa | gatgagactg | ctgtggagaa | 720 |
| ggaaactggg | atcccctgcc | tccaacgacc | ccgtgtccat | tcct | | 764 |

<210> 317

<211> 181

<212> DNA

<213> Eucalyptus grandis

<400> 317

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| acattcatgg | ggatatgcag | cctccaacat | tcatctcagc | aggcggagga | ggcgtgttcc | 60 |
| caggggctag | aacagctcca | acagtcactc | gtcgacacca | ttgccggcgg | gccagcatc | 120 |
| gaaggaatgc | aacagatggc | aatcgccttg | ggcaaattaa | ccaatctcga | aggctttgtt | 180 |
| c | | | | | | 181 |

<210> 318

<211> 420

<212> DNA

<213> Eucalyptus grandis

<400> 318

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctattggtta | tcccaagatg | ccgttacagg | cttcaatttc | tacacagtcg | gacttccaag | 60 |
| ctgatggttc | tggtcatggt | gtgccaatac | cacaagggtg | agatagtggg | tcattaggca | 120 |
| tttcagcctt | accaccata | caaagagatt | cgggtgtgca | tgtaagcaa | acaacaagt | 180 |
| agtcacgcag | ggaggattca | gatgatgaag | aatttgaagg | tgacacggga | accactgaaa | 240 |
| acaaagatcc | tgctgaagtc | agacgcgcca | gaaggatgca | gtcaaactcg | gagtcagcta | 300 |
| ggcgatccag | aagaagaaaa | caggagcaca | tgagtgaact | tgaaaaccag | gttgagcaca | 360 |
| ctggactact | gaagcgtctc | actgatatga | acaaaaagta | tgatgtagca | tcagttgaca | 420 |

<210> 319

<211> 462

<212> DNA

<213> Eucalyptus grandis

<400> 319

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cggaaccggg | ggcaattgga | tcgctcttcc | tcgcaaagcc | gggcttaagc | gctgcggcaa | 60 |
| gagttgcagg | ctaagggtgg | tgaattacct | gaggccagac | ataaagcatg | gaggtttcac | 120 |
| tgaggaggag | gatcacgtca | tctgcactct | tttctttacc | ataggaagca | ggtggtcggg | 180 |
| aattgcttcc | aaattgccag | gaaggacaga | taatgatgtg | aagaactact | ggaacaccaa | 240 |
| gctgaagaag | aagctaataa | agcaactggc | ttctctgaaa | acagtgcctg | aaagtaactt | 300 |
| tgactatcag | gtctgcgcac | agaactcggc | ctcaatcgat | cctgagacca | agaatcggga | 360 |
| atatgctgct | aattcaatgg | gattccccaa | gcagaacttc | aatccaggaa | taccacttcc | 420 |
| gaactcgagt | cttctctgtc | ctccaagtct | cactgaagtt | tc | | 462 |

<210> 320

<211> 445

<212> DNA

<213> Eucalyptus grandis

<400> 320
gcactttcttg cgcagacaat tgcagactct ctctctctct cattcaggcg cctgtcttct 60
caagcatttt gtcaaagaaa ctcttttggt tttctctctt ttctctctcg accatggccc 120
gaccgcagca gcgatatcgc ggctgtgcgc agaggcattg gggctccttg gtctctgaaa 180
ttcgccaccc gttattgaaa acaagaattt ggctagggac gtttgaaacg gccgaggatg 240
cggctcgagc ctatgacgag gcggaaggc taatgtgcgg gccgagggtt cggaccaact 300
tcccttaciaa cccaaacatg tctcagtcct ttctgcgaag ctctctctcg cgacattgac 360
agcaaagctc cacagggtgt acatggcctc gttgcagatg accaagtctg cattgcaagt 420
gcaagaacca cagaaccacc cagtt 445

<210> 321

<211> 350

<212> DNA

<213> Eucalyptus grandis

<400> 321
cgcgagcgc atcccgcccc tcttctcttc cccgttctcg aattcgccga gatctgctgc 60
ggatcgacc ggcgcgggat tctcgatgga ggcgcgggcg gcggcgccga aggtgggtggg 120
ggaggcggag gagctcccca agaccatcgt gcggcgcggt gtgaaggaga agctctcccg 180
gtgctccgac gacggcgacg tctccctcca caaggacgcc ctctctgcct tctccgagag 240
cgcccgcatc ttcattccact acctctccgc cacagcgaac gacatatgca aagaatcgaa 300
gaggcaaaact atcaacgcgg atgacgtgtt gaaggcgctg gaggagatgg 350

<210> 322

<211> 263

<212> DNA

<213> Eucalyptus grandis

<400> 322
tgccgatagc cagttcatga gcaaggccag ctctctggtg ttgatagggt ggagggtagt 60
cactgggtac caattgggtg ggaaaggatc tcggctctcg cccaaactgt gcaagtagat 120
gctgggtggg ggatgcagct agattcaatg gatgacgatg aggacctgac tgttgagat 180
atggagactc cttactggga gaggcctgca gggccgatat ggtgggtgtca tttctcgga 240
ggatcatctg ctgtggaagc atg 263

<210> 323

<211> 893

<212> DNA

<213> Eucalyptus grandis

<400> 323
gttttttccc ttttcgatat ctctgcaaat ctgcgactct ctgctctcgg ctccaacccc 60
ctcctcttca ctcttcttca caatccctgt ctgcggaatt tatggcgcta cccgcacgac 120
agtccgtccc ttcctttgat cactagcaaa tgtacgaccg aggattagca acccaaaagc 180
tgtcgaattc catctgattt ggtgcctctc atgggtgtgaa aagcagaact gttctctcgt 240
attcttgga cagtagaac tggctcaaca tgctgttact ctactcaac taaaacttca 300
gcaccacatt gtcgttggtc ttaaagttac agctcagtaa tgaaaccaac cattgatctg 360
gaagtggagg ccgtctcgga aaatgactct gagattagta gccaaagtcg ctccaatcta 420
tccaatcaag agccctccat gggctccctc aatgacagcc ttgctaactc ttcctacctc 480
atcagccctt cggctgttgg atcaggttcc gaaactgtgt tcctagactt gagccttggg 540
tgcagcaatg atgagtcag cgggagggat tctgtaggag tcgccttctc gagcaccagc 600
gaatgtagca atgagccga atctcatccg gcagctgcag gaccaaccac ttcaagagtc 660
ttttcttgca attactgtca aaggaagttt ttcagctcac aggcactcgg tggccatcag 720
aacgcgcaca agagagagag gaccctggca aagcgggcaa tgaggatggg catgttttct 780
tcacagagat attccagctt ggctcttttg cttttgcacg ggtctccac tgtcagggat 840
ctggggatca aagcgcattc ttccgtgcac cagggtgcacc aaggcatgtt gca 893

<210> 324
 <211> 434
 <212> DNA
 <213> Eucalyptus grandis

<400> 324
 atcacttcaa caccatgacc ttacaaaaaac aaagcaattg ttagaaccat ggttgctcaa 60
 ctgaagaact tcgatgctgc gctacaagaa ttggaggaga agaagaagaa cgaagtcgac 120
 cctagctcga gcatcggttc gtggatgtgg aaccctagtg ccgcccagga ggatgatgac 180
 tcgtgggagg tgagagcctt cgccgaagac actagcaaca ttatgggcgc aacctggccg 240
 ccgaggtcct acacttgctc tttctgtaga agggagttcc ggtccgcca agccctcggc 300
 ggccacatga atgtccaccg cagagaccgt gctaagcttc accaatcaca attccggccg 360
 ctggcgaacc aaaattctcc tttcgcttct tgctcttccc cgtcctcctc gactctgcta 420
 ttcccgaatc aaga 434

<210> 325
 <211> 588
 <212> DNA
 <213> Eucalyptus grandis

<400> 325
 cctagctgaa actattactc ccaactgggtc tctctctctc tctctctctc tctctcaaac 60
 atggctgaat tagattattg ccaaaaccaa agcagccccg gcgctgccgc cacgcgctta 120
 aagctcttcg gcttcaacgt ctccgatgag gaagactcag ccgtcagcga cccattact 180
 gttggcgcga acggcgccgg cgccggcgga ggccggaagg ccacgccgtc gggctcgccg 240
 gaaggcagcg tcccgggtgg ggccggcggc gagcggaagt acgagtcca gtactgctgc 300
 aggggaattcg ccaactcgca ggccctgggg ggccaccaga acgcgcacaa gaaggagagg 360
 cagcagctca agcgcgcca gctgcacgcc agccggaacg ccgccgtgtc gtcgctcgtc 420
 cggaacccca tcattctcggc cttcgctacg ccgccgcacc tgctggccac cgtggggccg 480
 gtggtggtga cgggggcccgc gccacctcc ccgtcctggg ttacggttc gcgtggcgcc 540
 ccgcccttcc aagtgtcgca cggctgcgtg ttcacgaccg gccaggga 588

<210> 326
 <211> 417
 <212> DNA
 <213> Eucalyptus grandis

<400> 326
 ggaacatcaa tcgaatccat ggcatcagag ctctcagcc gctaatacaca ggcagctcaa 60
 cctagagctc gcacttgagc catgttcacc atcctcgtca tcataccag catcactcca 120
 tctctttgca gttcctgcaa aagacaacaa gctttactca tgcaacttct gccaaaagaa 180
 gttctatagc tcgcaagcac ttgggggtca ccagaatgct cacaagctcg agcgaaccct 240
 agcgaagaag agcagggact tgtgtctctc cgcaaacct cctgcggcga cctcgaatgg 300
 tcaccatgta cggccatctt ttcaatctgt ggtttatgag aatcagccac gcttggccag 360
 gcatgttggg gatgatatga ggtatgctgg gactaatccg ctgtatgggt catcttg 417

<210> 327
 <211> 448
 <212> DNA
 <213> Eucalyptus grandis

<400> 327
 cagctgtcgt cgggtggacag ggaagcgagg gtcctgaggt acaggagagaa gaggaagaac 60
 cgcaagttcg agaagaccat caggtacgcc tcgcggaagg cctacgccga aaccggcccc 120
 cggatcaagg gcaggttcgc gaagcgcgcc gacatcgagg cggaggccga gcgcatgttc 180
 ggggttcgggg tcgtgccctc cttctgatgt catctgaagc gttggaagg ctctctctct 240

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| ctctctctca | agagagaaat | tttgggctct | tttccttgct | ggttttgtgc | tgctgctttt | 300 |
| ctcttgacgc | gatatcagtc | tgtttttgtat | atacagtagg | agactgttgt | gtgctccctg | 360 |
| gatctctgac | cgttgcctga | tcttgaatgt | tttatggtga | attttcatgg | aatttgatga | 420 |
| tgcaaattga | agggaattt | gctgaaaa | | | | 448 |

<210> 328
 <211> 673
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 328 | | | | | | |
| gagaggtccg | tggacggtgg | aggaggacct | caccctcgct | aattacattg | ccaaccacgg | 60 |
| cgaaggacgc | tggaactccc | tcgcccgcag | cgcaggtttg | aaacggaccg | gaaagagttg | 120 |
| ccggctgcgg | tggctgaatt | acctccgccc | cgacgttcgg | cgcggaaca | taaccctcga | 180 |
| agagcagctc | ttgatcctcg | agctccattc | ccgctggggc | aatcgatggg | cgaagatcgc | 240 |
| gcaacacttg | ccgggcagga | ccgacaacga | gatcaagaac | tactggcgaa | cccgggtgca | 300 |
| gaagcacgcg | aagcagctca | aatgtgacgt | caacagcaag | cagttcaagg | acgccatgaa | 360 |
| atacctctgg | atgccgaggg | tggctgagag | gatccaagcc | gcctccgcct | ctgtctcgac | 420 |
| cgctactgtc | gccgccggcg | ccatggcagc | cccaccaca | atggccacca | ccgcagcatc | 480 |
| caacatcggc | ggcatggctt | tcccgcggcg | cctggcgggc | atggcgggcg | acttcagggg | 540 |
| cgggcgagtg | aatgtggcgc | ccagctacag | caccccgag | aactcctgca | cgacggcgct | 600 |
| ttccgactca | ttcgggtgcg | aggtctcacc | cgtctcggac | cttaccgacc | ttgaccgagt | 660 |
| acttacccta | tcc | | | | | 673 |

<210> 329
 <211> 1008
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|------|
| <400> 329 | | | | | | |
| gttccaaagt | cactcccttc | ctcaagctac | gattccagct | ctccggaagg | aggaagaacg | 60 |
| tcgcgaaatt | caccggaatc | tctccgaccc | atcaacgctc | gggaaggaaa | ggcgcgacct | 120 |
| ttgatccgcc | ttttttttgt | accgtccgat | gagtctctgg | gcggactacg | accacgccgc | 180 |
| cgcgaccgac | ctctccgcct | tctggccgcc | gccggccacc | ccccctccgc | cggcgccggc | 240 |
| gccgccgctc | agtcaggagt | cgctgcagcg | gcggctccag | gccctgatcg | agggggctcg | 300 |
| cgggagggac | ggggaagaag | gggcccgggg | gcccgcgcgc | gcgtggacct | acaccatctt | 360 |
| ctggcagtc | tccggcgact | actccggccc | cgtcctcggg | tggggggatg | ggtattacaa | 420 |
| gggcgacggc | agagccagga | gcaggggctc | cgcttgctct | caggccgagc | aggagcaccg | 480 |
| gaagaaggct | ctccgcgagc | tcaattcgct | gatttcgggg | gccccgcccc | ccgacgacgc | 540 |
| ggtcgaggag | gaagtgaccg | acaccgagtg | gttcttcctg | gtctccatga | cccagtcgtt | 600 |
| cgccggcggc | gtcgggttgc | ccggtcgggc | ctacttcagc | tcgaatcccg | cgtgggtcac | 660 |
| gggggcccag | agggttggga | attgcgggtg | cgatagggcc | cggcaggcgc | agatcttcgg | 720 |
| gttgacagacc | atcgcggtcg | tccctgtttt | gaacggtgtg | gtcgaactgg | gttccaccga | 780 |
| gccgatctac | cagagctccg | atctgattag | cggaattagg | gggctgttca | atttccatga | 840 |
| atcgagatg | ggatgcggtg | gtagggtttt | gaatagcgag | catgaccggg | cgtcgctttg | 900 |
| gatctgcgat | ccgcaggtca | cgatggagat | taacgatcgt | cctatgacat | ttcagataga | 960 |
| gaaccccagc | tcgagcagtc | ttaccgaaa | ccccagcgcg | atctgcgc | | 1008 |

<210> 330
 <211> 384
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 330 | | | | | | |
| caaaccccac | cctgataagt | tcccagcaac | atagagacac | tcacagaaac | actcgcaaaa | 60 |
| aacctctttg | ctgtcttcca | tggttccgcc | attcccagct | gcagaactgc | ctctcaacga | 120 |
| gaatgattcg | caagacatgg | tcacttacca | tgtactgaac | gaggccatgt | cccagaacaa | 180 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctcctccctc | ccgcatccga | accaatctgg | gtccccatcg | agcggcggtt | ccctcgagcc | 240 |
| gtccaggggc | atcacgaaga | agcactacag | aggagtccgg | cggcgcccgt | gggggaagtt | 300 |
| cgcggtgaga | ttcgcgactc | gttacgccac | ggggcccag | tttggctcgg | gacattcgag | 360 |
| acagccgagg | aggcggcgct | ggct | | | | 384 |

<210> 331

<211> 420

<212> DNA

<213> *Eucalyptus grandis*

<400> 331

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctattgggta | tcccaagatg | ccgttacagg | cttcaatttc | tacacagtcg | gacttccaag | 60 |
| ctgatgggtc | tggtcatggg | gtgccaatac | cacaagggtg | agatagtggg | tcattaggca | 120 |
| tttcagcctt | accaccata | caaagagatt | cgggtgtgca | tgtaagcaa | acaacaagtg | 180 |
| agtcacgcag | ggagattca | gatgatgaag | aatttgaagg | tgacacggga | accactgaaa | 240 |
| acaaagatcc | tgctgaagtc | agacgcgcca | gaaggatgca | gtcaaaccgg | gagtcagcta | 300 |
| ggcgatccag | aagaagaaaa | caggagcaca | tgagtgaact | tgaaaaccag | gttgagcaca | 360 |
| ctggactact | gaagcgtctc | actgatatga | accaaagta | tgatgtagca | tcagttgaca | 420 |

<210> 332

<211> 1439

<212> DNA

<213> *Pinus radiata*

<400> 332

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|------|
| gcaacctgaa | gcgttttagg | cgggtgaggtg | gaagaagggg | gacaagggag | aacctgaaga | 60 |
| tttgtttgaa | ttaagctgtc | atcgggcagg | gcaagcaggt | cttcatact | ctgcaatata | 120 |
| tatctatatg | cggcagacct | tggttaggca | atctattgtt | tcgggtataa | gtaggggaagt | 180 |
| ttccccattc | tgtaggattc | ttaaaccgat | ttctagggcc | acggaatgcg | tcaaattgca | 240 |
| catacccacg | cctcctttct | cataacagg | ttacgcgcga | tttcttccct | tctagaaggc | 300 |
| cttctcctcc | tttactaaat | cgggtgttgt | ttcatcagtt | ttctccacaa | aatccctgaa | 360 |
| gttctcttaa | ttttttcgag | ggtcggtttt | ttatagtgtt | atctacgggt | aatatcagcg | 420 |
| aagggccttt | agatccgaag | gtataatggg | gcagcaatct | ctgatataca | gttttgttgc | 480 |
| gaggggcacc | gtggtgcttg | cggagtacac | ggaattcaaa | ggcaatttta | caggtattgc | 540 |
| cgctcagtg | ctgcaaaagc | ttcccgccag | caacaacaag | ttcacataca | attgcgataa | 600 |
| tcataccttc | aactaccttg | ttgaagatgg | cttcgcata | tggtgtgttg | cagatgaatc | 660 |
| cgttggaagg | caagtaccaa | tggcatttct | ggagcgtgtt | aaggaggatt | ttaagaggag | 720 |
| atatgggtgg | ggaagagctg | acacagctgt | tgctaacagc | ttgaacagag | atthtgggtc | 780 |
| aaaattgaaa | gagcacatgc | agtattgcat | tgaccaccct | gaagagatca | gcaaacttgc | 840 |
| aaaagtcaag | gcccggtttt | ctgaagtga | aggtgtcatg | atggacaaca | ttgaaaagg | 900 |
| tcttgaccgt | ggtgagaaga | ttgaacttct | ggttgataaa | acagaaaacc | ttcgttttca | 960 |
| ggctcaagac | ttccaaaaga | agggaaccga | gttgccgcaga | aagatgtggg | ttcagaacat | 1020 |
| gaaagtga | ttgattgtcc | ttggaattgt | ggtggccttg | attctcataa | ttgtcctttc | 1080 |
| agtatgccat | ggattcaatt | gttcgaaaaa | atgatctgga | atagatagag | gtccatttga | 1140 |
| attggaacaa | cttttgattg | gctatggatg | gcattcttgt | tctcctttgt | atttctctct | 1200 |
| atattatcag | tttcgggtga | gatagttcta | tgatgtttgc | cagaggggat | tttgcttgga | 1260 |
| caatcactgg | ttgatagtac | atattgacta | gtatgacaac | gaaatgttct | gaatattcag | 1320 |
| tggggcagag | actctgattg | cgtacagcaa | ctttagtgt | ttatatcaag | gtcatgcatt | 1380 |
| tgttattgtt | cttatcttta | atgaagtatt | gttttacatc | ttagaaaaaa | aaaaaaaaa | 1439 |

<210> 333

<211> 407

<212> DNA

<213> *Pinus radiata*

<400> 333

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| atttaactgg | gattgcaagc | tgcttgtgtt | gtttctgtgc | ttcaagcgaa | gggaagggaa | 60 |
|------------|------------|------------|------------|------------|------------|----|

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gacattccta | gagaagaaaa | aatcaatat | caatggggag | ggggaagatt | gaaataaaaa | 120 |
| tgattgaaaa | tacagcaaac | aggcaagtca | cattctctaa | gagaaaagga | ggacttctta | 180 |
| agaaagctca | cgagctctcc | gttttatgca | atgcagaaat | tgctctcatc | gttttttcca | 240 |
| acactggcaa | actccatgat | tggtcaagct | ccagcatgaa | aaaagttatg | gagaagtacc | 300 |
| agaaatcgga | tcaaggacta | ggacttatgg | actaccaaca | acaacagctg | ttgtgtgaaa | 360 |
| tgaaacgaat | caccaaagaa | aatgaaagcc | ttcgagctcg | tttaagg | | 407 |

<210> 334
 <211> 307
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 334 | | | | | | |
| gtaccgtctc | cactgggtg | tacccgagaa | aattacttgc | tgagatattg | taaacaacat | 60 |
| tcagatggaa | tatgggcgg | ggtggacgtc | tctcttgaca | cgttgcgtgg | gaaccgcgaa | 120 |
| ccccatccca | actgccctcc | ttcgacttta | agatgccgaa | gacgaccgtc | cggttgccctt | 180 |
| atccaggaga | tgcccaatgg | ctattccaag | gttacgtggg | ttgaacatgt | tgaagtggac | 240 |
| gagagggctg | tgcaccgtat | ttatgataag | ttggtaagca | ccgtttcgcg | ccgaacgccca | 300 |
| taccgct | | | | | | 307 |

<210> 335
 <211> 530
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 335 | | | | | | |
| ctttccaata | ttgagcccaa | gcaaatacaa | gtttggtttc | agaatcgaag | gtgccgagag | 60 |
| aagcagagga | aggaagcctc | gaggcttcag | actgttaaca | ggaagctgac | ggcaatgaac | 120 |
| aagttgctca | tggaggagaa | cgatcgccctt | cagaagcaag | ttcacagtt | ggtgtatgag | 180 |
| aatggttaca | tgagacagca | gctacagaat | gcattctgtg | ccgccacaga | cacaagctgt | 240 |
| gagtctgtgg | tgactagtgg | tcagcaccaa | cataatccaa | cacctcagca | tcccccaaga | 300 |
| gagtgtagcc | ccgctggact | cctgtctata | gcagaggaga | ccttgacaga | gttcctttca | 360 |
| aaggctaaag | gagctgctgt | cgattgggtc | cagatgcctg | ggatgaagcc | tggtccggat | 420 |
| tcgattggta | ttgtagctat | ttcaaatact | tgtaatggag | tagctgcacg | tgcttgccgt | 480 |
| cttgtaggat | tagatcctac | aaagggttgca | gagatcctta | aagatcgccc | | 530 |

<210> 336
 <211> 402
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| <400> 336 | | | | | | |
| cattcttcca | gagggaccac | ctgagagccg | atcagtaatt | gacaatcgac | aggtcgaagg | 60 |
| atcgatcctg | accattgcat | ttcagatact | tgtaaagcat | ctcccatcgg | caaagctgac | 120 |
| gctggagtct | gttgagactg | tcaacaatct | catttcatgc | actgcacaga | gaatcaaagc | 180 |
| tgctctacat | aaagtcgagg | atgtttgatg | ttcagagatc | ggtcgcaagc | taacttaaact | 240 |
| atgtcttcaa | ttattttttt | ttacaaaaac | aataaatatt | atattatgag | gttgaacaac | 300 |
| accattctcg | agttttggga | ttgtatatta | tcagtttgaa | agtgtgagtg | caatttgata | 360 |
| accgactata | gggatgggaag | gaaaactgca | tcgaaatcca | ca | | 402 |

<210> 337
 <211> 356
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| <400> 337 | | | | | | |
| atTTTTTctg | tagatgggtg | gaggacgtgc | tgaatagtcc | ctaaatcggt | tcttccgcgt | 60 |

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| ttggtcatcg | aacgagttcc | tataactcgc | caagaccagg | ttcttcacgg | actactaatt | 120 |
| ttgggcttct | acacatcttt | cccggaagta | gatggggcgg | gcactaggaa | gaacagaaat | 180 |
| aaagaggata | gaaaatgaag | tgagcaggaa | tgtgagtttt | agaaagagac | gacgtggatt | 240 |
| gctgaagaag | gctgcggagt | tgtcaatact | ttgcgatgca | acagtgggcg | ttgttgtttt | 300 |
| ctctccggcc | gggaaacttt | ctgaatatgc | cagcacttcg | gagtcaaattg | gatacg | 356 |

<210> 338
 <211> 380
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| <400> 338 | | | | | | |
| attcgaaacc | ctaccaatcg | gcactcatcc | ttctacaaac | gcaagggcgg | tttgcttaaa | 60 |
| aaagcatttg | aacttgctgt | tctctgtgat | gctgaagtgt | ctctgataat | cttctctgaa | 120 |
| accggcagga | tttacgagtt | tgcaagccac | gatgatgtga | ccacagtatt | ggcaaaatac | 180 |
| cgaatacaaa | cgaaaactgc | cgaaaacgca | atgccttcat | cgcttcaaaa | aacagagttt | 240 |
| gatcaattac | aaagtcaggat | gttgcaggag | aagatagaca | atttgagaga | aacgaaaaag | 300 |
| catatggctg | gtgagaattt | ggagtcactg | acgtggaagg | aattgcaaca | agtcgaaaag | 360 |
| aaattaagca | aggctacaaa | | | | | 380 |

<210> 339
 <211> 299
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 339 | | | | | | |
| cctacttgga | aaggcaaact | cttgtaactg | ttccatcctg | cacgaattgg | aggttttgga | 60 |
| ggtggccagg | tcactctccc | attagcccat | actgtggaac | atgaagagtt | tttgagggtt | 120 |
| atcaagttgg | agaatcatgg | cctgacacag | gaagaagctt | tgctatcgag | ggatatgttt | 180 |
| ctgttgacgc | ttttagtggt | gctcgatgaa | aatgcagttg | gggcctgtgc | tgaacttgct | 240 |
| tttgctccaa | ttgatgcac | cttagctgac | agttctcctt | tgctcccttc | tggttttcag | 299 |

<210> 340
 <211> 584
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| <400> 340 | | | | | | |
| tcgcagcgta | aagcgttcat | gggtgccggg | cggttaactc | ttgaaaaata | ttagattcga | 60 |
| ctccctgacc | ctgggaggag | gaagaagaag | aagaacagca | ggagggaagcg | aaaatttctt | 120 |
| aatagtaacc | agagaatagc | agcgggtgaa | gaagcagagg | gatcttgcaa | tggggcgggg | 180 |
| tcgggttcag | ctgaggcgaa | tagaaaacaa | aataaatcga | caagtcacgt | tttcgaagcg | 240 |
| ccggaacgga | ctgctgaaga | aggcgtacga | gctatcagtg | ctgtgcgatg | ccgaagtggc | 300 |
| gctaataatt | ttctctacca | gaggaaagct | ttacgagttt | gccagttcca | gcatgaacaa | 360 |
| gacgttgga | agatacgaaa | aatgttcata | tgcaatgcaa | gataccacag | gcgttttcgga | 420 |
| ccgggaagca | cagaattggc | accaagaagt | tacaaagtgt | aagggttaagg | ttgagctcct | 480 |
| gcagcgatca | caaaggcatt | tggtggggga | agatctgggt | ccgttaaattg | ttaaggagct | 540 |
| acagcagctt | gaacgtcagc | tggaggttgc | tctgacacat | ctta | | 584 |

<210> 341
 <211> 592
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 341 | | | | | | |
| ttgggttcgg | ggtcctgtcc | tgactggaat | ttttgtttca | ctcgttctgc | cccgtctgga | 60 |
| ttgggctgca | ctgaaataca | ttgaacattg | gagttgtcga | gcgcgagata | tgggtcagca | 120 |

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| gtccctcatt | tacagctttg | ttgcaagggg | cacgggtggtc | ttggccgagt | acacccaatt | 180 |
| cacgggcaat | ttcacaacaa | ttgccaatca | atgccttcag | aagattcctg | ccagcaataa | 240 |
| taagttcacc | tacaattgcg | atcgtcacac | attcaattat | ctcgtcgaag | atggttacac | 300 |
| atactgtgtt | gttgacagatg | aatcagttgg | aagacaacta | ccaattgcct | ttctggagcg | 360 |
| cattaaggat | gacttcaaga | aacgatatgg | tgggtggaaaa | gctgacacag | ctgttgctca | 420 |
| cagcctcaac | aaagactttg | gaccaaaaatt | gaaagatcat | atgcagtatt | gtgttgatca | 480 |
| cccagaagag | attaacaaac | ttgcaaaaagt | gaaggctcag | gtttctgaag | ttaaaggcgt | 540 |
| aatgatggag | aatattgaga | aggtccttga | tcggggtgaa | aagatagaac | tt | 592 |

<210> 342
 <211> 163
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 342 | | | | | | |
| gtttcctact | ggaaatgggtg | gaacaatcga | gcttttatac | atgcatacat | atgcggccac | 60 |
| tacttttagct | tctgctagag | acttctggac | tctgagatac | acaacagtg | tggaatatgg | 120 |
| tagtcttggtg | gtttgtgaaa | ggtccttgag | tgggactcag | ggt | | 163 |

<210> 343
 <211> 372
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 343 | | | | | | |
| gaggagggag | gcctgtgcc | ctcagccgtc | cttaatggcg | agagctcctc | accaccacca | 60 |
| gcaacagcaa | caccaccagc | accaccaaca | agaagccagc | aggatgggtga | cttccttgga | 120 |
| ggtcgatata | gatactgctt | gttccagtaa | acctaacgat | tccattgatg | cgctgaaatc | 180 |
| aaaaattgct | tgccatcctc | actatcctca | gctgttgcca | gcttacatgg | attgccagaa | 240 |
| ggttggggct | cctccagaag | ttgtcacagt | actggatgag | attattcaag | agaatcagct | 300 |
| tggacgccat | tcgggaacta | tggatatagg | agtggatccg | gagcttgatc | aattcatgga | 360 |
| ggcctactgc | ca | | | | | 372 |

<210> 344
 <211> 418
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| <400> 344 | | | | | | |
| gtagattcct | tgtctatcaa | gaggggtgcac | aagggttggt | tttaagaaca | cagacaggca | 60 |
| gacagacaga | gacgtgatca | tggggcgagg | gaagattgaa | ataaaagaaaa | tagatgatgt | 120 |
| aacgagcaga | caggtaactt | tctcaaagcg | caagatgggg | atattcaaga | aagcccacga | 180 |
| gctgtctgtt | ttatgctgatg | cagaggtggc | tgttctcatc | ttttcaaaca | ccggaaggct | 240 |
| ctacgactat | gctagttaa | ggtgtatgga | acgaactatt | gagagatatg | aaaaatgtac | 300 |
| caaagcaatt | aattgccccaa | catcagatcc | cattgtcgag | aataagagcc | caattcagga | 360 |
| aggcattgaa | atattgaggc | agaaaacttcg | tgcattacaa | agattgcaaa | gaaatctg | 418 |

<210> 345
 <211> 657
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 345 | | | | | | |
| ggtacaagaa | gtggctcata | ttgcaaatgg | gtcgcacccg | ggaaattgta | tttctcttct | 60 |
| tcgcgtaaat | gcatgtagta | caagccaaaa | cgtagagcta | atactgcagg | agagttgcac | 120 |
| agatgcatct | gggtctgtta | tagtgtacgc | ccccgtggac | gtcccagcaa | tcaatattgc | 180 |
| tatgagcggg | gaggatcctt | catacatagc | ccttctcccc | tctggatttg | ccattcttcc | 240 |

| | | | | | | |
|-------------|-------------|-------------|------------|-------------|-------------|-----|
| agacgggtcaa | aatagatctt | ctactagttc | actcctcgaa | ggggcgaaca | gcagcagcaa | 300 |
| cagtagcaac | agcagtggat | tggatagccc | gctcacaaga | ggagggttcat | tactcactgt | 360 |
| ggccttttcag | gtgcttgtca | gccattttacc | aacagccaag | ctgggttttag | attctgtttac | 420 |
| aaccatcaat | aatctcatat | gcaatacagt | gcagcagata | aaatctgcat | tgcactgtgc | 480 |
| agatgtctga | atcgacagtgt | aattatcgga | gtacgggtgg | agggggcggc | atgcagagaa | 540 |
| acaacataaa | aaacgttcta | tccggtactt | gcaccccaa | gggtagtaga | ataaaaaatg | 600 |
| atatgcatat | atatgtttgg | tggttgcttt | ctgtagtttt | atctgctgca | gttaagt | 657 |

<210> 346

<211> 377

<212> DNA

<213> Pinus radiata

<400> 346

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| aaccggagag | caagaacaaa | gtggaaacgc | aacgaagtgg | agtgcgataa | tctgaaacgg | 60 |
| tggtgcgaga | gtctgagggg | ggagaacaga | agattggaga | aagaagtgca | gtcgctgaga | 120 |
| gccatgaaag | tcccgagtc | acccaattcg | atgcctctgg | cagccgccac | cctcgcaatg | 180 |
| tgtccggcct | gcgagggcct | tgcaatcaag | aaccgcggcg | ccgccacttc | ctccaccgcg | 240 |
| aagtcacaac | aatccctcct | tacaattatg | gggattgggg | atgtaaatat | gatattccaaa | 300 |
| aataaccaa | ccccttcaat | gggaatggga | gatgaaatga | attgaagaaa | gtgaacttaa | 360 |
| aaaaaaaaa | aaaaaaa | | | | | 377 |

<210> 347

<211> 558

<212> DNA

<213> Pinus radiata

<400> 347

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|-----|
| gaaagaagga | aagaatgggg | cgagggcgcg | tcgagctgaa | gcggatcgag | aataagatta | 60 |
| accgtcaggt | cacgttttcg | aaacgccgga | atgggtctgct | gaaaaaggcg | tatgaacttt | 120 |
| cagtgttatg | tgatgcagag | gtagcacttg | ataatattct | caagcagagg | aaaactctat | 180 |
| gagttcggaa | cgccggggat | gctcaagact | ctggagcgat | atcaaaaaatg | ttcatacgta | 240 |
| ttgcaagacg | cgactgtatc | ggaccggggag | gcgcagaatt | ggcatcaaga | ggttggcaaa | 300 |
| ttaaaagcca | aagttgaact | tttacaacga | tcacaaaggc | acttattagg | tgaagacctg | 360 |
| ggcccttga | gtattaagga | gctgcaacaa | ctggaacgtc | aacttgaggt | tgcactgaca | 420 |
| catgttaggt | caagaaagac | tcaagtcatt | ttggaaatga | tggatgaact | acgcagaaag | 480 |
| gagcgaattt | tacaagaagt | aaacaaatct | ctgcgcaaga | agttgcagga | ggccgagggg | 540 |
| caggcattca | atgccatg | | | | | 558 |

<210> 348

<211> 331

<212> DNA

<213> Pinus radiata

<400> 348

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctcagataca | gctaatagca | gtgagcttct | gggcagcagc | agatcagatg | gagatcacc | 60 |
| acatcatggc | caccatgatc | agcagcagca | gcagcaggag | aatcatatgg | tgtggcagaa | 120 |
| ttcaaggctc | aaggcagatg | ttctccaaca | tccactgtat | gaccagttgt | tggctgctca | 180 |
| tggtgcctgc | ttgaggattg | caactcctgt | ggatcagctt | ccaaaaatag | atgctcagtt | 240 |
| ggctcagcag | caccatgttg | tggccaagta | ctcagtccta | ggaaggaacc | agctcttgac | 300 |
| tggagaggag | aaggaggagc | ttgacaggtt | c | | | 331 |

<210> 349

<211> 260

<212> DNA

<213> Pinus radiata

<400> 349
acgaaattac cttggggagt atactggaga gttgatttca catcgggaag ctgataagcg 60
aggaaagatt tatgatcgag aagactcctc cttccttttc aacttgaacg atcagtatgt 120
tcttgatgca taccggaagg gggataagtt gaaatttgca aatcattcac caactccaaa 180
ttgctatgca aaggtgatta tgggtgctgg tgatcataga gtgggtattt ttgcaaagga 240
acgcattgca gccggtgagg 260

<210> 350
<211> 479
<212> DNA
<213> Pinus radiata

<400> 350
aaaatttaac agaaacattg caagctgctt gtttaatttc tgtgcttcaa gggaaaggag 60
aggaagagat tcccagagga gaagatcaag ataaatgggg agggggaaga ttgaaataaa 120
aatgattgag aacgcaacaa acaggcaagt caccttctct aagagaagag ggggacttaa 180
aaagaaagct caggagctct ccgtcttatg caatgcagaa gttgctctca tcattttttc 240
cagcaccggc aaactccatg agtgggtcaag ctcgagctca ttctttatgt tacaaaaaag 300
catgaagaaa attctcgaga gataccagaa atcagagcag ggactaggac tcatggatta 360
tcaacatcaa cagctgttgt gtgaaatgag acgaatcacc aaagaaaatg aaagccttca 420
agagcgttta aggcataatga atggcgagga agtcaattca ttgaagctcc cagagcttt 479

<210> 351
<211> 260
<212> DNA
<213> Pinus radiata

<400> 351
gctatttgca gcatttcctt ccattccgtac ccaaaagatg ctgacaaaca ttactagca 60
agacagactg gactgaccag aagccagggt tcaaattggg ttataaatgc acgtgtccgc 120
ctttggaac ccattggtgga agaaatgtat atggaggaac ttagagaggc cgaaacacag 180
aatcatgcag cagattcgaa ggtaacaaca gaaagtgggc aaaacaatga agaaacgggtg 240
tcaaaggaag gagctgggaa 260

<210> 352
<211> 176
<212> DNA
<213> Pinus radiata

<400> 352
agggggctgg ttacagctct gtgagcggaa tagatgaaca tgcagctgga ttctgttctc 60
aacttggtgt tgcaccaatt gatgcatctt ttgctgatga tgctcctctg gctgccctct 120
ggtttccgag taattcctct agaattctgga tcagaatggt tctcctccaa aacgga 176

<210> 353
<211> 338
<212> DNA
<213> Pinus radiata

<400> 353
ggacggagga ggacgaggag ctgggtcattt cgtcatggaa cagttttatac ctgagcaggc 60
cgtcatctct gattcgtcca tatcttcggg gaaaacagaa gtttgacgag gtagtggagg 120
ccaatttgag ctgatccgca ggaaagaaga ggggagatgc ggccgtgcct atgctgagcc 180
ttcatttggt gtcactctc tagttacttc attacctcca cagcagcagg aaggccggat 240
ggtaacatcc ctggcagtg atatggacag ctcatgttct tgtaaacc aaatgaagctga 300
tgccatgaga gcaaaattat ttgcgcaggt acactatc 338

<210> 354
 <211> 405
 <212> DNA
 <213> Pinus radiata

<400> 354
 gggcaagggg aaagacacag atgagaaaga tcgagagcgc gaccagcagg caggttacgt 60
 tttctaagcg cagaaatgga ttgatgaaga aagcttacga gctgtcgggtg ctctgcgatg 120
 cccaactggg actgattgtt ttctcccccga gaggggaaggt ctatgaattc tccagtagct 180
 gcatgcagaa aatggttgga cgatacgaaa aatgttcaga aggaagtgc acgagtacat 240
 caaaagagca agatgtccag tgtttaaaac gagaaagtgc gaatatggaa gaaaggattg 300
 aaattcttga atccatgcaa agaaagatgt tgggcgagga gctggcatca tgtgcattga 360
 aggatttgaa tcagttggag agccagggtg aacgagggtt gagaa 405

<210> 355
 <211> 332
 <212> DNA
 <213> Pinus radiata

<400> 355
 tctctctggg gtgggggagca ctcaaaatgg ggaagacgaa gatggagatt aaacgcattc 60
 aaaaccctag ccgcccgcag gttactttct cgaaacgcaa gaacggattg ctaaaaaagg 120
 cattcgagct ttctgttctc tgcatgctg aagtcgccct gatcattttc tcggaaactg 180
 gcaagatctg cgagtttgca agccacgacg acatggcaac aatactggaa aaatatcgaa 240
 tatacacgga aacacatgga aacatggagt cctcgtcggg ccaaagcgtg aagattgggtg 300
 aatcacaact caaagcgttgc cgtgagaaga tg 332

<210> 356
 <211> 405
 <212> DNA
 <213> Pinus radiata

<400> 356
 aaactcccca aggaagcaag gcaaaagttg ttggattggg ggaccagaaa ctataagtgg 60
 ccatatcctt cggaaagtca aaagatagca ttggcagaat ctaccgggct ggatcagaag 120
 caaataaata actggtttat aaatcagcgc aagcgacatt ggaaaccatc tgaagagatg 180
 cagttcgtgg ttatggatag tcctaatacct cacaacgctg cttttttcct ggagggacat 240
 ctcaggacag atggaaactgc cttttcaatg gattgttgaa gttaaacccta tttttgaggc 300
 aaacaccagt tttagtgcaa tgctgtagat ttgtctgact catcttttat atgtatagct 360
 ggatctctaa aatgggcat gtttcataac gtgctagata tgagt 405

<210> 357
 <211> 468
 <212> DNA
 <213> Pinus radiata

<400> 357
 acttttcatg cgtttcgaag gccgccatga ttctggcaga gcacagcgaa ggcgatgcag 60
 agctggagga agtagcaggg gaatgttttag agaggggttc gcctttacac agccgattca 120
 cgcataccac aaaaagaaaa atgtacagtt ttctaattgga cggcccatct gtttactgtg 180
 ccatagtggg tgaagcgtc gggaaaccgc aggtctttgt atttctcgag catgtcagag 240
 atgagttcaa gaaattgtt aagaacagag gttgtgaagg gctcagttcg tgctgttttg 300
 ataaagaatt cggctctgtt tacaagcgcc ttgtgtggtc tctgtgggt gttcctcaaa 360
 tagaaaagga tcgcttgatg gaggaagaat cgaaatccca acctgctaaa acacatccag 420
 tccaggtaaa taattctccc aaagattctc tacctgtgta tgataata 468

<210> 358

<211> 499
<212> DNA
<213> Pinus radiata

<400> 358
aagatgggag cttgggtgatc tgtgaaagat ctctctctgc ggctcaagggt atgcctatgg 60
tattcacagtc tcaaagcttt gtgcatgggtg aactcttattc tagtgggtat ttgatccgac 120
cctgtgaagg cagaggagca ttagtcatca tgggttgatca caggaactta gaggcttcaa 180
gtgtccctga agcacttcgt cccttatatg agtcatctac attctttgca cagaagatga 240
cagttgagge ttcttatcat cttcaaggta aagttcaacc ggaaatgatt tccttatcaa 300
aaaaactcca acagccatgt aatgtacggg catcacagtc acggctttgc agaggcttta 360
atgaggcagt caacacatta cctgatgatg gctggatgctc attgtccaaa gatgggctgg 420
gggatgtcac tatttgtgaa agctttgtca aattgccgga accaaatgca tcgcaaatag 480
cctatgtcaa cagcatggg 499

<210> 359
<211> 462
<212> DNA
<213> Pinus radiata

<400> 359
acgggctctc caacaattag gcatgattca gcagcatgct tggaggccac agagaggact 60
tcccagagca tctgtttctg tcttacgggc ttggctatctt gaacattttc ttcattccgta 120
tccaaaagat gcagacaaac atatgctcgc gagacagact gggcttaccg gaaatcagggt 180
ctcaaattgg tttataaatg cacgtgtacg cctctggaag cctatgggtg aagagatgta 240
tgtggaggaa acaaaggagg cagaagtaga ccatggatca aatgataaaa caggtaagga 300
gagtggcgag aaaaaagaag atgcattgtc aaaggaagga gctgcaggca ataattggaa 360
tatacatgag cagcaaagtg ggaaaatctc aaaactcgac aatattgcac aggatggagg 420
tgctgatgaa aaacctgctg gtgtgcccaa atctgaaaat gc 462

<210> 360
<211> 357
<212> DNA
<213> Pinus radiata

<400> 360
ggagtgttga aattcccctg ttttgatctg ataactatga atctgatgga gtcttttgag 60
gcaaagggaa agggagagaa gaggagaacg gtgaggggga aaaccaggt gaagagaatt 120
gagaacggga ccagcaggca ggttactttt tgtaagcgca ggaatgggtc gctgaagaaa 180
gcgtacgagc tgtcagtgct ttgtgatgcc gaagtggcac ttattgtttt ctccccaaga 240
gggaagctgt atgagttcgc taatcccagc atgcagaaaa tgttggaacg atacgaaaaa 300
tgttcagaag gaagtaacct gacgagtaca gcaaaagagc aagacgtcca gtgttta 357

<210> 361
<211> 749
<212> DNA
<213> Pinus radiata

<400> 361
gagcttcattc cgccattatt ggggtttcaat tcgatcttga tttgccagag acgatgtgaa 60
ttaccattct gtgggcaaaa gcgagagagg aggagaatgg tgaggggaaa gaccagatg 120
aaaaggatcg agaacgacac gagcaggcag gttacgtttt ctaagcgagc gaatgggtta 180
ctgaagaaaag cttatgagct ctctgtgctc tgcgatgccg aagtgggact tataattttc 240
tcaccaagag ggaaactata tgaattcgcc agtcccagca tggaggagat tttggaaaag 300
tataaaaaac gttcgaagga aaatggcatg gctcagacaa cgaaagagca agatactcag 360
tattccaaac attccaaaca aaagctcgca aatattggaag aacagattag gattcttgaa 420
tcaacccaaa gaaagatgtt gggggaaggg ttggaatcgt gttcaatggc agaattaaat 480

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| aagttagaga | gccaaagctga | acgaggattg | agccatatac | gggctcgaaa | gacggaaata | 540 |
| ttggttgacc | aaatagaatg | tcttaaaaagg | aaggaacgtc | tcttaagcga | ggagaacgcc | 600 |
| ttactcagta | gaaagtgggt | tgatcgtaa | tccgtggacg | gttccgggtc | aacatcatct | 660 |
| tcaattggat | tgggaagcat | cgagcagatc | gaagttgaga | cacaactggg | tataagaccg | 720 |
| ccaaatgcac | aggatcactg | ttctgtaaa | | | | 749 |

<210> 362
 <211> 670
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 362 | | | | | | |
| gtttgcttgc | cgtgaaagaa | atcgaacttc | cggcgcttgg | gtgcgagaaa | tatttgcaaa | 60 |
| tcgaacttcc | ggcttgggtg | caagaagctt | ttgcgttttc | ggtttcagat | taaagcaata | 120 |
| tggagtcaga | ggaagacaaa | atatctccag | agaacaagaa | aaggagatta | aaaacccac | 180 |
| agcaggtcga | aggtctagag | agcttttatg | ctgaacataa | gtatccttcg | gaagctatga | 240 |
| aatcacagtt | atcagaagaa | ctgggattaa | cagagaagca | ggtacaagga | tggttctgtc | 300 |
| acaggaggct | taaggataaa | aggctcatga | aggaagaagc | ttccaacaat | ggaaaacaag | 360 |
| atccacacaa | tggcataatg | caagattctg | ttaatggagt | caaacaagat | tctagcggca | 420 |
| gtggaaaaaa | atctgatcac | caacgccatt | cgaggtgcaa | agaggttgaa | agtcaacgat | 480 |
| ttgcgaatgc | catggattat | cctgcagctg | tccttgctgc | agagcttagg | gatcatgatt | 540 |
| tgttcaaagt | aaaccatgat | aacgaagaca | cctttgcagg | aagtagttca | gcttcacaag | 600 |
| acagatcgtc | attacaaagt | gggaatcctt | atgaagctga | ggcaagaaga | cgcccatttc | 660 |
| agaatggtaa | | | | | | 670 |

<210> 363
 <211> 651
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|-----|
| <400> 363 | | | | | | |
| tagacctaat | tctgagggtca | atgaatctct | gctgaaaaca | ctttggcacc | actctgatgc | 60 |
| catcatgtgt | tgctccttga | aggtaaaccat | gtacaatatc | atagactttc | ttctggagat | 120 |
| taattttcaag | tttgcacaat | tcttacgtta | ggctttgttt | ggtgctgtgc | agtcattgcc | 180 |
| tgttttcacc | tttgcgaatc | aggcaggcct | tgatatgtta | gaaacaaccc | tggttgcctt | 240 |
| gcaagatata | tcattagaaa | agataacttga | cgacaatggc | cgaaaaagct | tttgctcaga | 300 |
| tattgctcaa | attatgcaac | agggatacgc | ctatctacct | gctggagtgt | gtgtttccag | 360 |
| catggggcagg | cctgcttcct | atgacagggc | tattgcttgg | aaggctcctca | atgatgagga | 420 |
| aaatccccat | tgcatagcat | tcattgtttat | gaattgggtcc | tttgtttgac | cattattttt | 480 |
| cattgtacaa | attataccga | gtccttgaag | ttaacttatt | gaacaaaatc | tctttctggg | 540 |
| caagccttgt | gtgactggcc | aaagaaaaaa | tacagagggg | gagcatgtaa | gcagcatatt | 600 |
| tggttgctac | atttttgcct | ttaatttgaa | aaatgaattc | tgttggacaa | g | 651 |

<210> 364
 <211> 257
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 364 | | | | | | |
| ccaaagaatt | tggcacgagc | ccgccagcaa | caacaagttc | acatacaatt | gcgataatca | 60 |
| taccttcaac | taccttgttg | aagatggctt | cgcatattgt | gttgttgag | atgaatccgt | 120 |
| tgggaaggcaa | gtaccaatgg | catttctgga | gcgtgttaag | gaggatttta | agaggagata | 180 |
| tgggtggtgga | agagctgaca | cagctgttgc | taacagcttg | aacagagatt | ttgggtcaaa | 240 |
| attgaaagag | cacatgc | | | | | 257 |

<210> 365
 <211> 357

<212> DNA
<213> Pinus radiata

<400> 365
gtgaattcca accaaagtaa tatgcttata cttcaggaga gctgcacaga tgcattctggg 60
tcgttcgtaa tttatgctcc agtggatata gttgccatga atgttgtgct cagtggagggt 120
gatccagatt atgtggctct tctgccatct gggtttgcaa ttttaccaga tgggccaaaag 180
tgcattggcag tcaccaattc aggcattaac gacctaggca gtggaggatc tttactcact 240
gtggcttttc aaattttggg tgactctgtg ccaacggcta aattatccct ggggtctgtt 300
gcaacagtga atagtctcat ttcattgcact gtggacagga tttaaagctgc tgttact 357

<210> 366
<211> 309
<212> DNA
<213> Pinus radiata

<400> 366
attcactggg atttttagcag cttttgtttc atctaagggtc acagagcatc agccccctgg 60
tcacatgcct tcgggtcacac agggctccgc catggccaac cccaatttcg tggctttgca 120
taataatcag ggtcatgacg gaggagcaaa tggagaccct gcgcaggcaa atttgcgttt 180
attcaacaat tggcagtcag ttggtagaaa tgcacagagc catgtcacag cagcaggcct 240
tcttcagtgg ccgactctgc ttatgggaca acacatgctt tatgatctag ctcaaggaaa 300
tccagggtt 309

<210> 367
<211> 575
<212> DNA
<213> Pinus radiata

<400> 367
ggaaggaaaag aatggggcgga gggcgcgctcg agctgaagcg gatcgagaat aagattaacc 60
gtcagggtcac gttttcgaaa cgccggaatg gtctgctgaa aaaggcggtat gaactttcag 120
tgttatgtga tgcagaggta gcactgataa tattctcaag cagaggaaaa ctctatgagt 180
tcggaagcgc cgggtatggt attgaaatct ctggactttt ttctgggatt ttgtattata 240
atattagagt tggagaaggc tgtgaggagg agaagagagg ttgtaaagtt tattccgtga 300
tttgttttta aggaaaatct taaattagct aaaacttttg tgcacgttca aaaggccttt 360
aaattttctc tccagttgag agtattttga gaaaataagc cgaatgcgcc cgggagccac 420
acaattgtag caagcttcag tttattttca aagcatttct ccgaataagc tagaaatgct 480
aagaattttg tgaatcgcta aagcatttgt aacatatagc gcagatatca aaaaaataaa 540
gaatttatcg gtaaaaaaaa aaaaaaaaaa aaaaa 575

<210> 368
<211> 243
<212> DNA
<213> Pinus radiata

<400> 368
ctgagagtta agtgattggt gggagggaaa agagaaaaaa gaggagatca agaattggtga 60
ggggaaaaaat ccagatgaag aggattgaga atacggccag caggcagggtt acattttcca 120
agcgtagaaa tggattgctg aagaaagctt acgagctctc gggtctctgc gatgcagaag 180
ttggacttat gattttctcg ccaggaggaa agctctatga attcgccaat accagcatgg 240
aga 243

<210> 369
<211> 184
<212> DNA
<213> Pinus radiata

<400> 369
ctatgctatt acagaatgtg cctccagcac tacttgctcg cttcttgctg gaacatcgct 60
cagagtgggc tgattgtaac attgatgctt attcttcagc taccatgaaa gcaaatgctt 120
acaatgttcc aggttcactg ggaggcatta cagggagtca agttatcctt cactggcac 180
atac 184

<210> 370
<211> 158
<212> DNA
<213> Pinus radiata

<400> 370
acatcccgtc ttcactttgt tgatcaacaa ttacgacaac agcgagctct tcagcagcta 60
ggaatgatac agcagcatgc ctggagacca caaagagggc ttccagagag ggccgtttct 120
attctccggg cttggctatt tgagcatttc cttcatcc 158

<210> 371
<211> 462
<212> DNA
<213> Pinus radiata

<400> 371
gcagtggtca tatggatggg ggatccggag aggaccaaga tgccgccgat caagatcacg 60
atcacgatca cgatcatgat caccagcagc agcagacgcg gaggaacgt taccacagac 120
aactgctcg tcaaattcag gagatggaag cgttggttaa ggagtgtcca catcctgatg 180
acaaacaaag gcagcggctc agcattgaat tgggccctta agccgcggca ggtgaaattc 240
tggtttcaaa atcggcgtac tcagatgaag gctcaacagg atcgctcaga caacgccatt 300
ctccgtgcag agaatgaaaa tctgcggaac gagaacgtag cactccgaga agcaattaaa 360
aatggtgctt gtccaaactg cggaggggtc acatcgctgg gagagatgcc tggattcgac 420
gaacaccatt tccgtataga gaatacgcgc ttaaaggagg ag 462

<210> 372
<211> 510
<212> DNA
<213> Pinus radiata

<400> 372
gcaaccggag ctttaagact agaatatata tgtagccctc gggctctgac gaatactgaa 60
actagagata cccacctctt atctggtgtg taaggcacgc aaaatgggaa agaagaagg 120
ggaggtgaaa ctcatcctc accctaccag tcgccaagga tgtttctaca accgcaagt 180
cggtttgctt aaaaaagcgt ttgagctttc tgttctctgt gatgctgaag ttgcccttat 240
aatcttctcc caaaccggca agatttacga gtttgcaagc catgacgacg tcaacgcaat 300
tctcgcaaaa taccggatac aaacgggaac aacaacaaac gcgatgcctt cctcgcttca 360
aaacaccgag ccggagacgt tgcattgagga gacaaatatg ttgggaaaaa ggaaaaaagt 420
ggagaagtgt catgagaaga tcaatatgtt ggaaaaaaga ggaaaaaaca tggtttggtg 480
aaaatttggg gtcattaacg gtcaatgaat 510

<210> 373
<211> 466
<212> DNA
<213> Pinus radiata

<400> 373
tggatcacca tgcagtagag gatagggagt taaaaaatca tctccttcgc aaatacagtg 60
gatatttgag tagtctaaaa caggaattca tgaagaagaa aaagaaagga aagctcccta 120
aagatgcacg gcaaaagtta cttgattggt ggagtctgca cgacaagtgg ccttatcctt 180

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| cggaacgga | gaaaatagct | ttggctgaat | gcacgggggtt | ggatcaaaaa | caaataaata | 240 |
| attggtttat | aaaccaaaga | aaacgccact | ggaagccttc | tgaagatatg | cacttcacatg | 300 |
| taatgaacag | tcacagtcct | cacagtgcgtg | ccttgatgtg | tgagagacat | atgatgactg | 360 |
| aagggtatct | ttagattgct | agaaagaacc | ttcggctgaa | aacagcacac | aatgctattg | 420 |
| cttttggtgt | atttaattgg | catggctttc | aattttaaaa | aaaaaa | | 466 |

<210> 374
 <211> 573
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| <400> 374 | | | | | | |
| atctctgttg | ggatctagaa | ttgagaaagg | gacgcttggtg | ggctgggtggg | ttccacaat | 60 |
| gagaggctcc | tcccgtgcat | atgatgcatt | ttattctatt | tggtgatcct | gtcaatggaa | 120 |
| aaaaagagag | cagtcgaatt | tggcattgaa | atacatgac | agcaagagat | tgaaacgtag | 180 |
| cttatggacc | cccgaaggaa | tggtgggggg | gaatacgagg | taggaggtag | ccagccgaaa | 240 |
| gagctgatct | cagagaacta | ttatacaaac | acagtctgca | aaagaagaaa | tactgtgatg | 300 |
| cattttttgga | tgatgcagta | aaggcagaca | cctatgaaaa | aattgtttca | ttctgagata | 360 |
| tggaacacct | gaatgcagct | gctgcccagg | cctcctcttc | gctttatgga | gttagcatgg | 420 |
| ccgagtacgg | agacgtcggc | gtcagctcaa | tgatggcgct | gatgacccaa | cacgagcctc | 480 |
| atgaaagcga | gagcacaatg | acgacgagta | tgctagtctc | attttcatcg | ttccatggcc | 540 |
| atgctgaatg | ccttctctca | gcagcaatgt | tcc | | | 573 |

<210> 375
 <211> 526
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 375 | | | | | | |
| ggattcttgt | atttttgtgt | gttgctgctg | caacagttct | taaataccaa | gacattgatg | 60 |
| agagcttgag | taatatttct | gcaaaaaccc | aagtaaacc | tgaagctagt | ccaaactagt | 120 |
| ggaaggaacc | tcggctattc | tgtaagttca | ctcagatttt | gagaaactct | tgggattttg | 180 |
| ctcaaaatgg | ggcgtggtaa | aatagagatc | aagaagatcg | agaacagcgt | gcacaggcag | 240 |
| gtgaccttct | gcaagcgccg | aggcggtctg | atgaagaaag | cctacgagct | ttcagtgtctg | 300 |
| tgcatgacg | atgtagcgct | cattgttttc | tcgagccgag | gaaagtgtga | cgagctgggc | 360 |
| accagcaaca | acaacaacaa | cagtatgagg | tcaatattgg | aaagatatca | aaagtgttca | 420 |
| cagacggcaa | aacatatgaa | cttttcgaat | aatacttcag | acgagaaaat | gaagcaagaa | 480 |
| ataaattttac | ttaaacacaa | attgatcagc | taaacttact | aacaga | | 526 |

<210> 376
 <211> 335
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 376 | | | | | | |
| aaaatggcgg | cttagatgaa | ttacgagcag | agactcatcg | cagcggcacg | gctagctgac | 60 |
| aacctgaact | ccacgactgc | aaaagaattt | gatattccca | gcgctgaaga | agttgccgag | 120 |
| aaatgttcag | aatggggagt | caccgcacag | ctgaaggcac | accaggccca | aggactgtca | 180 |
| tggtgatac | gccgatatgc | cattggcgctc | aatgttatac | ttggggacga | gatgggactt | 240 |
| gggaaaacat | tgagggtat | aagtttgttg | gcttacttga | aagatcgacg | gaaatgccca | 300 |
| gggccatttt | tggtattgtg | tccattaagc | gtaat | | | 335 |

<210> 377
 <211> 773
 <212> DNA
 <213> Pinus radiata



<400> 377

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| gaagtgtgga | tgttcttact | gcttttctcaa | ctggaaatgg | aggaacaatt | gagcttttat | 60 |
| acatgcagat | gtatgcgcca | actacttttag | cttctgccc | agatttctgg | actcttagat | 120 |
| acacttctgt | attggaagat | ggtagtcttg | tggtttgca | gagatccttg | agtggaaactc | 180 |
| agggaggtcc | cagcatgccc | gcggtgcagc | agtttggttag | agcagaaatg | caaccagtg | 240 |
| gatatttgat | tcggccatgc | gaaggtggag | gttctctaata | tcatattgtt | gaccatattg | 300 |
| atttgagacc | atggagtgtt | cctgaagtgc | tacgtccact | gtatgaatca | tccactgtac | 360 |
| ttgccccaaa | ggttacaatg | tcggccttac | gccatttgcg | tcaaatagca | caagaggcat | 420 |
| cttctgatgt | ggtccttggc | tggggaagac | aaccgcgtgc | attacggaca | tttagccaga | 480 |
| gattgtgcaa | gggtttcaat | gaggcagtta | atggcttcac | agatgatgga | tggctcttga | 540 |
| tgggtaacga | cggaaatggag | gatgtaacta | ttctcgtcaa | ttcatctcca | agcaaactgt | 600 |
| tcggtcaca | gtttgcttct | tccgatgggc | ttctcgtct | tgggtggggc | atcctatgtg | 660 |
| ccaaggcttc | tatgctatta | cagaatgttc | ctccagcatt | gcttggttcgt | ttcttgcgag | 720 |
| aacatcgatc | agaatgggca | gatagtaata | ttgatgccta | ttcagcagcc | tct | 773 |

<210> 378

<211> 407

<212> DNA

<213> Pinus radiata

<400> 378

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| atggcaatgg | aagagaggag | tggatgatctt | ttgaaaggct | gtggtctttc | tgagaatgca | 60 |
| ttggatgcta | tctctgagg | ttctatacag | aatcattggg | catggtcaga | agtcaagcaa | 120 |
| ttgtctgtaa | ctcttcttcg | tgctctagat | gcgggaattg | aacactctct | ccttggttct | 180 |
| atgatgtcaa | tagacagata | tgcagcagca | gagagctttc | atagacttgc | ttgggcttat | 240 |
| gcacacgtgc | cagatctgca | tatcatgtgg | cttcttcatt | tatgtgatgc | tcatcaagag | 300 |
| atgcagtctt | gggcagaagc | tgcgcaatgc | gcagtggctg | ttgctggggg | cataatgcag | 360 |
| gcattggtag | gaagaaatga | tgctgtctgg | ggaaaggagc | atgtaac | | 407 |

<210> 379

<211> 385

<212> DNA

<213> Pinus radiata

<400> 379

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgaggtcgag | tccagctgag | gaggatcgaa | aacaaaatca | gtcgtcaagt | aactttttct | 60 |
| aagagacgga | acggactgat | gaaaaaggcg | gcggagctgt | caatactgtg | cgacgctgaa | 120 |
| gtggccttaa | tcgtcttctc | caacaaagac | aaactgtacg | agttcgccag | ttccagtatg | 180 |
| accaagattt | tggaaagata | tcggaagcgt | tcaaatttaa | tacaagatat | cggtaaagat | 240 |
| ccacagaatt | cagacattga | gttgacgcgt | ctaaaagaag | aggttgaccg | cttacaaga | 300 |
| tccagaaggc | atcttttggg | tgaagacctt | catcaactag | gtgctacgga | tctgcaacac | 360 |
| ttagaacaac | agcttgaaga | agcgt | | | | 385 |

<210> 380

<211> 513

<212> DNA

<213> Pinus radiata

<400> 380

| | | | | | | |
|------------|-------------|------------|-------------|------------|-------------|-----|
| tttcaatgcc | cctctttttc | cagtggacga | gtgttcaatt | ttccctgtgt | tgatctgata | 60 |
| cctataaatc | tgatggattc | ttttgaggca | aagggaagg | gagagaagag | gagaacgggtg | 120 |
| aggggaaaaa | cccagatgaa | gaggattgag | aacgcgacca | gcaggcagg | tactttttct | 180 |
| aaacgtagga | acggctctct | gaagaaagct | tacgagctct | cggtgctttg | tgatgccgaa | 240 |
| gtggcactta | tggttttctc | cccaagagg | aagctctatg | agttcgccaa | tccagcatg | 300 |
| cagaaaatgt | tggaaacgata | cgagaagtgt | tcggaaggaa | gtaaaacaac | aagtatagca | 360 |
| aaagaggaag | atcccaaggc | tttaaaacga | gaaattgcga | atatggaaga | aaggattgag | 420 |
| attcttgaac | gcacgcaaag | aaagatgttg | ggcgagggaac | tggcatcatg | tgcatggaag | 480 |

gattttaaattc agttggagag ccagggttgaa cga

513

<210> 381

<211> 210

<212> DNA

<213> Pinus radiata

<400> 381

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| cacagttctg | gaacctgtta | aagagaaattc | agtcgaggtc | aaactccttc | tgtttgcacg | 60 |
| aggatgcccc | gcattatgga | gaagcaaaat | agtggtgaag | atagtgatag | caagggtcag | 120 |
| cttgataatg | gcaagtatgt | ccgttacacc | aatgagcagg | tgagacttt | agaacgtgct | 180 |
| tataatgaat | gctcaaagcc | cagcacaagc | | | | 210 |

<210> 382

<211> 380

<212> DNA

<213> Pinus radiata

<400> 382

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cttcgttctc | caggatttct | cgacagggtt | taaacgacgc | tagcaacccc | ctgtgatttt | 60 |
| acagtctgtt | ttgccaggcc | ggtgaaaatg | ggtgcattcg | cccttctatc | aagctggatt | 120 |
| gatgctgcca | ctaattccaa | gtacaggaag | aagcgtaaac | aatttcagac | cgtggagttg | 180 |
| agagttcgaa | tggaactgtg | aggctgtgag | agaaaagtga | gaaacgcact | aaattcaatg | 240 |
| aaaggagtaa | gttctgtaga | agtggagaga | aaacagtata | aggcaacggt | gacgggatac | 300 |
| gtggatgcca | acaaagtgtc | gaagagagt | aggcaaacag | ggaaaaaggc | agaattgtgg | 360 |
| ccttacaagc | cttaccatct | | | | | 380 |

<210> 383

<211> 407

<212> DNA

<213> Pinus radiata

<400> 383

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| ttttcaaaca | cttgggtttt | aggcaattta | cttgcccctg | gagccaacaa | acagatgcat | 60 |
| cttgattcca | gttctactgg | agcaccagg | ctctcaaatt | ttctgatagg | ctccaagtat | 120 |
| cttaaagcag | cacagcaatt | gctcgacgaa | gttgtcaatg | taggtaagg | catcaagcct | 180 |
| gattcagcca | aacatcagaa | atcacaatca | tggaattggaa | caacagctaa | taaagagaat | 240 |
| agtggagctg | aaggtgggtg | gaaggatgga | gcagctgctg | cccctacatg | gcgttcaact | 300 |
| tcagcccaag | aaacaaatga | ccgtccctct | gagctgtcac | cagcagaaa | acaagagctt | 360 |
| cagatgaaaa | aagcaaagct | tgtggccatg | ttggatgagg | ttgatca | | 407 |

<210> 384

<211> 441

<212> DNA

<213> Pinus radiata

<400> 384

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| ggcaagaata | gttgctgat | agcacggaat | ttattaagt | gccttagaac | gtgttcagag | 60 |
| atcgctgaat | acatgtccca | caatgtatct | gcaatacagc | atggagttgg | ggatgtatca | 120 |
| acactccact | ctgatggtag | caggaagact | gattgtggtg | atattctgaa | gttcggacaa | 180 |
| gagcaagatt | ttggcgtaga | aaagggagag | tgccggaggtt | taagtacaca | tgcaagtctg | 240 |
| ctgggtcatcc | atcaatcagg | aaaagaatta | aagatggaaa | aggacagcca | tgtagacaat | 300 |
| atacaccatg | tggttgtcaa | ctgacatgtg | gaaagcaatg | cccttgcttc | cgaaatggga | 360 |
| cttgctgtga | aaaatattgt | gggtgctcaa | agagttgcaa | gaaccgtttc | agaggttgtc | 420 |
| attgtgctaa | gagtcaatgc | c | | | | 441 |

<210> 385

<211> 423
 <212> DNA
 <213> Pinus radiata

<400> 385

| | | | | | | |
|------------|-------------|------------|-------------|------------|------------|-----|
| agcagatgaa | agccttttga | ttccgaacct | ggatgctggt | aaagaaactc | ttagctatga | 60 |
| agaatacatg | cgccaattcc | cttccacaat | tacgccaaaag | cctataggcc | ttgccactga | 120 |
| ggcgactaga | gaaactggca | tggtgatcac | aaacagcttg | aatcttggtg | aaacactcat | 180 |
| ggatgtggat | cactggaagg | aaatgttccc | ctgcatgata | tccagggcag | ccacagtcca | 240 |
| tgtaatatcg | agcgggaatgg | gcgggacaag | gaacgggtgca | ctgcaactga | tgtatgcaga | 300 |
| attgcaagtg | ctttcaccgt | tggttcctgc | tcgagagtac | ttctagagcg | gccgcggggc | 360 |
| catcgatttt | ccaccgggt | gggtaccag | gtaagtgtac | ccaattcgcc | ctatagttag | 420 |
| tcg | | | | | | 423 |

<210> 386
 <211> 445
 <212> DNA
 <213> Pinus radiata

<400> 386

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gcaaagcgaa | aatattatgt | ccacgaggat | cccaagctcg | ttttcatcat | tccatggcca | 60 |
| tgccgattgc | cttctctcag | cagcaatggt | tcaggggtct | caaggagatc | ataagctcaa | 120 |
| tccacagcct | gggatgaacc | agcagctagt | ctctgagcag | tctatcatgt | cagattcgct | 180 |
| catgccgttt | gttaagacaa | aagcttgctc | tggtcttcgt | aatcagtttg | aatttcacag | 240 |
| ggaacaaccc | ggaaattgct | acacagatca | gtcctcaa | attccgctaa | gccccatagt | 300 |
| cacatcggtt | gcctcgagc | ctcgaggaga | agcgcggatg | ataccgtcct | tggtatgcaa | 360 |
| cagtgtcat | ttcaatgtgg | ataacgagga | gcatgcaata | aaatcgaaaa | tcttagcgca | 420 |
| cccacagtat | ccgagcttgt | tggga | | | | 445 |

<210> 387
 <211> 343
 <212> DNA
 <213> Pinus radiata

<400> 387

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| gaactagtca | atcagagatg | ccatgagaaa | tcccatctgc | acaaactgtg | gaggacctgc | 60 |
| tggtcttggc | gagatgtcct | ttgaagagca | gcaacttcgc | attgagaatg | cccgcctaaa | 120 |
| agaagagctg | gatcgattgt | gtgcactagc | agggaaagttc | tttggcagac | ccattccttc | 180 |
| aatgccatct | gttcccctta | tgcctaaatc | atccctagac | cttggagtcg | gtggcatgcc | 240 |
| cacttcgttg | ccctcggcta | gtgcagactt | gatgcatgga | cctgctggtg | gtcgaacagg | 300 |
| aaacataata | ggtattgaga | ggtcgatgct | ggctgagctt | gct | | 343 |

<210> 388
 <211> 1193
 <212> DNA
 <213> Pinus radiata

<400> 388

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| ccgttggtgt | tcctttctcc | accctcagcg | tctccttaca | cacacaattc | aatcaatccc | 60 |
| ctcgccacgc | caccgcgttc | gcctgttctt | cctcctctgg | atcaacccat | tcccacagtc | 120 |
| ctacttcgct | caatccgacg | gctaattttt | gcgaaatctc | tgtctctttc | tcttattacc | 180 |
| ggtttctgat | tagaaactgg | caaaaacaga | ggatttagca | gtacccaact | ggggaacaga | 240 |
| gcgttccgaa | tgatgggtat | tggtgtttcc | tgctgtctgg | tatctcgcat | gcgagctctc | 300 |
| tggagaagca | gcttctttcg | ccataaagtt | cacatatctc | tgggcaacta | ctggttttgc | 360 |
| tagcgattct | gaggtgggca | tatgctcagc | ttttaatgct | actagaggac | accgtttgaa | 420 |
| ggagtttttc | tctgaggaga | tgatgatgtc | tggtgggaga | atgtatgggtg | ggccgaacgt | 480 |
| ccttgctcacg | gccaacgaga | acatttcccg | ctctgcagat | gcactggaag | ctctactttc | 540 |

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|------|
| ttctcctgtt | ttcaatgggt | caagatctgt | agctaatttg | gaggaggtga | taggtaatgt | 600 |
| gtcaaaaaga | tcattttaca | attcctttga | ccaggaagaa | actggagatg | aagaccttga | 660 |
| tgattgtatc | catccaccgg | agaagaagag | aaggctgact | gctgaccaag | tgcagttcct | 720 |
| ggaacgaagc | tttgagatcg | aaaacaagtt | ggaacctgag | cgcaagatac | agctagccaa | 780 |
| ggagttgggc | ctccaaccta | ggcaagttgc | agtctgggtt | caaaaccggc | gggcaagggtg | 840 |
| gaaaacaaag | cagttggaaa | gggattatga | tattctgaaa | tcacgctatg | agaatttgag | 900 |
| agttgattat | gatagcctgc | tcaaagaaaa | ggataaatta | agggctgagg | ttaccttcct | 960 |
| aacagacaag | ctacacgaca | gtgaccatga | agccctcaca | aaggattctg | agtctgctga | 1020 |
| caagaaagtc | tatccccagc | ctgcctccca | ctctgactgt | gttggggagc | ctgaaagaag | 1080 |
| tactgctgcc | aaggatacac | caccaggttg | taaacacgaa | gatcttctga | gctctggaac | 1140 |
| agatagcagt | ggggctcctg | atgaagatag | tcctcaccat | gttgactgtg | gtc | 1193 |

<210> 389

<211> 385

<212> DNA

<213> Pinus radiata

<400> 389

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| aaaattgaga | atactacaag | ccggcaggtt | acattctgta | agcgggaagaa | tgggttgctg | 60 |
| aaaaaagctt | atgagttatc | tctgctgtgc | gatgcagaag | tggctctcct | cattttctcc | 120 |
| accagtggga | gactctatga | atttgccaat | aagagtgtta | gcgcgacaac | ggagcggtag | 180 |
| atgagaacct | atgcagagaa | catgcctcag | tctcgagctc | tgtatccgga | ttgtcaccat | 240 |
| tggcaagagg | aagtcagaaa | acttacacag | caacgtgata | gtctaacca | ttcgatcaga | 300 |
| caaataatgg | gtgaaggcct | tgaatcatta | agcatgaagg | agctcaagca | tattcaagtt | 360 |
| caattggaaa | aaagtattag | ttgtg | | | | 385 |

<210> 390

<211> 359

<212> DNA

<213> Pinus radiata

<400> 390

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gtacactgca | gagcaggtgg | aagctctgga | acgcctttac | aatgactgcc | caaagcccag | 60 |
| ctctctgcgt | cgccagcagc | tcatcagaga | atgcccaatc | ctttcacaca | tcgagccgaa | 120 |
| gcaaatacaa | gtctggttcc | agaatcgaag | atgtagagag | aaacagcgca | aggaggcaag | 180 |
| tcgtctccag | actgtcaaca | gaaagctcac | agccatgaat | aagcttctta | tggaggagaa | 240 |
| cgatcgctt | cagaagcaag | tctcgcagtt | ggtttacgag | aatggctatt | tcagacagca | 300 |
| gatacagact | gtttctatta | ccaccacaga | tactagctgt | gagtctgttg | ttactagcg | 359 |

<210> 391

<211> 257

<212> DNA

<213> Pinus radiata

<400> 391

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| caagcatgaa | tttgatgtgc | ggatcagaa | gcttgaggac | aaactatata | ttgcacagct | 60 |
| ttattttccc | ctgattggac | tgatattgga | tgagatgccg | gttttttaca | acctcagcac | 120 |
| agtggagaag | cgtgaagtgc | taatctgtat | catgcagata | atccgcaatt | tggatgaccc | 180 |
| atctcttatt | aaggcatggc | aacaaagtat | tgctagaaca | aggctctttt | tcaagcttct | 240 |
| ggaagaatgt | cttgtcc | | | | | 257 |

<210> 392

<211> 290

<212> DNA

<213> Pinus radiata

<400> 392

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| ggcctcctcg | tgactatgag | actcttcgca | gcgactgaac | cgaaacgtgt | cttcgcagtg | 60 |
| acaaaacgta | tttttcttct | tgggttcctg | tctttctttc | tgcgtagagg | cctcgtagcc | 120 |
| agcgtgtggc | ttcctgtttc | tccgcaaaga | ttatttgatt | tcttgaggga | tgagagactc | 180 |
| agaagcaagt | gggatatact | atcaaattgga | ggccaatgc | aagaaatggc | tcacattccg | 240 |
| aaaggacaag | atcctcgcaa | ctgtgtttct | cttctaagag | caagcatatg | | 290 |

<210> 393
 <211> 465
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| <400> 393 | | | | | | |
| gctgggtatca | ttatacaaca | atcattttgaa | tgggaatttg | gcagatgaaa | tgggtcttgg | 60 |
| caaaacagtg | caggtaattt | cattaatatg | ttacttgatg | gaacaaaaga | atgacagagg | 120 |
| acctttcttg | gtagttagtg | cttcctctgt | attgtctggg | tggctgagtg | aaattagctt | 180 |
| ttgggccccct | agcatcagta | aaattgcata | tacaggttct | cctgatgatc | gccgtcgatt | 240 |
| attcagggag | aacattttct | agcaaaaatt | taacgtgctc | ttaactacat | atgaatactt | 300 |
| gatgaacaaa | cgatcgacca | agactgagta | aaatttcatg | gcattatatc | ataattgatg | 360 |
| agggacatcg | cataaaaaat | gcattcttgc | aactgaatgc | tgagctgaag | cactatcata | 420 |
| gtagtcatcg | attattgtct | acgggaacac | cactccagaa | taatc | | 465 |

<210> 394
 <211> 157
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 394 | | | | | | |
| tcccaaagat | gctgacaaac | atatgctagc | aaggcaggca | ggtttgacaa | gaagccaggt | 60 |
| ctcaaattgg | ttcataaatg | cacgtgtccg | tctctggaag | cccatggtag | aagaaatata | 120 |
| tatggaagaa | atcaaggaag | ctgagtttag | acattca | | | 157 |

<210> 395
 <211> 384
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 395 | | | | | | |
| accaatttta | cggcgaagca | accgaccccc | ctgaaatccc | cttaacacga | atttctgagc | 60 |
| tggggccggg | attgtgttag | agcaggatga | tgacgcgaag | gtttatgaat | cccccttctg | 120 |
| acggaagaac | gcagaggcac | cgcggacccg | atggagattt | ctacccctgg | aatcggccct | 180 |
| tgaaaatcct | taccagggtc | tcatgaagca | ctgcacatcc | ctgctaaaaa | cgctaataaa | 240 |
| tcacaaattt | ggttatgttt | ttaacgagcc | cgtcgatcct | gtggccctgg | gggttcccga | 300 |
| ctatttcaact | gttattacct | cgcccatgga | tttgggcacc | atcaaggcaa | aattgcagga | 360 |
| cagcgtttat | tcaagccctc | tcga | | | | 384 |

<210> 396
 <211> 694
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| <400> 396 | | | | | | |
| gttgcaactg | agttgctgca | cgagcttgtg | gctttgcagg | tctcgaacct | tcaaaggctc | 60 |
| cagatattct | taaagatcgt | cccgtttggc | ttcatgattg | tcggcgccct | gatgttttga | 120 |
| ctgcatttcc | tacgggaaaa | ggaggggcag | tcgagcttct | atacacgcaa | atgtacgctc | 180 |
| caactacatt | agccctgtct | cgggacttat | tgactctgag | atacacatca | ttgttggaag | 240 |
| atggcagcct | tgtgttttgt | gaaaggatcat | tgactgggtac | tcagagtggg | ccaaacatgc | 300 |
| cgctgtcca | gcattttgta | agagcacaga | tgcttcccag | tggttatttg | atacgtccct | 360 |

| | | | | | | |
|------------|------------|------------|-------------|------------|-------------|-----|
| gtgaaggtgg | aggctgtata | attcatattg | ttgatcatat | ggacttggag | ccttggagtg | 420 |
| tctctgaagt | tatacgccca | ctttatgaat | catctgctgt | actggcccaa | aaaatgacca | 480 |
| ttacggcatt | gagacatttg | cgtcaagtag | ctcaagaggt | ctcaggtgaa | gtgggttcttg | 540 |
| gttggggtag | gcagccagct | gctctgcggg | catttagcca | gagactgtgc | aggggtttca | 600 |
| atgatgctgt | gaatggcttt | gcagatgatg | gttgggtcttt | gttgggtagt | gatggggtag | 660 |
| aggacgtgat | cattgccata | aattcatctc | caag | | | 694 |

<210> 397
 <211> 493
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| <400> 397 | | | | | | |
| ccaatattta | cgtcagcaat | tacaattgct | gcatgcacgt | gctggcaata | acaccagatc | 60 |
| tcttcagcag | atggcagtga | ctgcaaatga | caccagctct | gattcagttg | taacaagcgg | 120 |
| gcaacggcag | caacactcac | cgcaacatcc | tccatacagt | gtaagtacct | ccaggttggt | 180 |
| tttcatagca | gaggagacat | tgacagagtt | tctagcaaaa | gctacaggaa | ctgctgtgga | 240 |
| ctggatccag | atgcctggga | tgaagcctgg | tccggattcc | attggtgtgg | tggctgttgc | 300 |
| acatgcttgt | gggtggagtgg | ctgtgcaagc | atgggggtgt | gttagtttgg | aaccttcaga | 360 |
| ggtagctgaa | gccttgcgag | ataaggtatc | ttggctttgt | gactgccgga | agatggaggt | 420 |
| tctggggact | tttgattcaa | ctgatggacg | gaaattggaa | ctattacata | cacagatgta | 480 |
| tgctccaata | act | | | | | 493 |

<210> 398
 <211> 436
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| <400> 398 | | | | | | |
| atggggaaga | cgaagatgga | gatgaaacac | attcaaaacc | ctagccgccg | ccaagttact | 60 |
| ttctcgaac | gcaagaacgg | attgctaata | aaggcattcg | agctttctgt | tctctgcgat | 120 |
| gctgaagtcg | cccttatcat | ttctcggaa | actggcaaga | tcagcgagtt | tgcaagccac | 180 |
| aacgacatgg | caacaatact | ggaaaaatat | cgcatataca | cgcaaacaga | aacagatgga | 240 |
| aacatggggg | cttcgtcggg | ccaaagcgtg | aagggtgggt | ttcctaattt | tctcgagatt | 300 |
| gcgggattca | gtgtttgtgg | atgatcccta | ttattgcagt | gtgggttggg | gcacgagggg | 360 |
| tgaggttgac | tcgactcata | tgattggaag | gttgggtgaat | cacaattgaa | agcgttgcac | 420 |
| gagaggatgg | acaatt | | | | | 436 |

<210> 399
 <211> 419
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 399 | | | | | | |
| ctcagagctc | gacaaaacct | acatacatte | gtctgtcatc | cctcccagaa | atacctagt | 60 |
| agggcgatcg | aggtcgaaag | gggcatttta | cgccattgaa | gcggtgtgca | tagggccaac | 120 |
| tctgagaact | gattgtgtct | tccttcggag | ggagaggggt | agcgaggttc | agaaagagag | 180 |
| agaaagagaa | agtagtccta | agggactgtt | taaaatgggg | cgaggtccag | tccagctgag | 240 |
| aaggatagaa | aacaaaataa | atcgtcaagt | aacgttttcg | aagagacgga | atgggctgat | 300 |
| aaagaaggcg | tcagagctgt | caatcctgtg | tgatgcggaa | gtggccttaa | ttgtcttctc | 360 |
| caacaaaggc | aaactctatg | agttctccag | ttccagtatg | accaagattt | tggaaagat | 419 |

<210> 400
 <211> 690
 <212> DNA
 <213> Pinus radiata

<400> 400
 cttagccttt ccccccaaca gctttcaa atccaattat cctgctttca aaatcagcct 60
 acagactcag aagtgaattg cccagctatt tcagaagcaa cttcacagga gaacttgaat 120
 aggtctgata gactaacaag taaattgtca ggaagtctga gttcttttcg ggcttctca 180
 agggatggga tgctaggaac taaatttcta ggtagtgtga atggccctga gtgtaacaaa 240
 ccgatgcac atggtacgaa tgcaattgga gcagcagagc tctcaaacac tttactgggt 300
 tccaaatatt ttaaagcagc acagcaatta cttgatgaag ttgtaaatgt tggaaaggggt 360
 atcaagtctg attcagtcaa ccatcaaaaa tcccaaacat gggttggtgc aatatctgac 420
 aaaaagaata ttgcaactga agctactaca aatgaccgaa caacatctgc aataacagga 480
 gcttcaattt ctgcagaagt aatgaaaaac gagcatgctt ttggactcac accagctgat 540
 agacaagaac ttcagatgaa aaaggcaaaag cttgttgcca tgttgatga ggtggatcga 600
 aggtacagac agtactatca tcagatgcaa atcgttgttt catcgtttga gaccgcagct 660
 ggatttgggg ctgccaaagac atacacttct 690

<210> 401
 <211> 383
 <212> DNA
 <213> Pinus radiata

<400> 401
 ttctcgcccg ttttttccct gcactcacca cttccatcgc cattgctgga accctagaag 60
 accagtctct ttctttttta actcaggagt taaatcgcaa tacaaaactc ctgtgctgga 120
 ctctattgta tcatagtatt cagcaagaga ggccatgggg cggggaaga tcgagctgaa 180
 gaagatcgaa agcacaagca acaggcagggt gacgttctcg aagcggcgga tgggggtgct 240
 taaaaaggca caggagcttt cgtctctatg cgatgcagag gtcggcgctca tcatctctc 300
 taataccggc agactctacg acttctcgag ctccagtatg gagaagatga ttgaaacata 360
 ctatcgattt attgaaaaaa atg 383

<210> 402
 <211> 846
 <212> DNA
 <213> Pinus radiata

<400> 402
 atcaaatcta actggatata caagtgtacc gttatttgggt tacttttgtt cgcaggatgc 60
 ttctatcccc attttgtggg aggaaattac tcagcccata ctagagtga atcctttggg 120
 gatagacttc ctaccattgg atttgtgtct gttgcaggct gcataatgtg tttccatttt 180
 ggcgattgtt tctttgaatc ttaattgcta gttttctac ttttgtatgg ccttttaggt 240
 aacattgttc ttagttttac aggtccttga tcggggtgaa aagatagaac ttttggttga 300
 caaacagag aaccttcgat ttcaggctca agacttccag aagcaggga cacaacttcg 360
 ccgaaaaatg tggtttcaga acatgaaagt caaactgggt gttcttggaa ttgtctttgt 420
 gttgattctt ataactctggc tctcaatttg ccatggattt aagtgccatt aatcttgatt 480
 acttggcagt cctttctaga tacaatcctt tcgaggcatt tatattcatt ttttggcagc 540
 ttggcttata atagatgcag gctctctttg aaaagagtat cttttgtgtt gtgtctgagt 600
 aatgtatttc attcacttgg atactctcat cattagatac tgattatcta tgttttctc 660
 tgacgaggga caatgcctcg actcttcata gtttaggtta ttggcactac ccatcagctg 720
 tgatgtcaat ctcttttata aatatgaatc cctgcttttg gttttcaatt ttaacgttca 780
 catagcctgt attatcagca gtgcttaatt aacgcgggaa acctttggat aaaaaaaaa 840
 aaaaaa 846

<210> 403
 <211> 333
 <212> DNA
 <213> Pinus radiata

<400> 403
 gccaaattcg cgctctgatg gaaatgggaa ggctgaccgt agtgattcta tgggaacaga 60

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| agctcgaaca | cgaacaagat | tttggcgtag | aaggggaaga | gtacggaggc | tgaagtacac | 120 |
| ttggaagtct | gctgggtcatc | cctcaataaa | aaagcgaatt | gctgatagca | aagatcagcc | 180 |
| atgtaggcag | tttacaccat | gtgattgtca | atccatgtgt | ggaaagcaat | gtccctgcct | 240 |
| acgtagtggg | acttgttgtg | aaaaaactg | tgggtgttcg | aaaggctgca | agaatcgttt | 300 |
| ccgaggatgt | cactgtgcaa | agagtcaatg | tcg | | | 333 |

<210> 404
 <211> 881
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|-------------|------------|-------------|-------------|-----|
| <400> 404 | | | | | | |
| cgctctcag | ttctctggta | acgatatgcg | taattatggt | gctaaagaag | ttacttcagg | 60 |
| gttggctacc | ggcgggtcaac | ggcgcgcagc | tctgcagcta | aacctcgca | cccttgatag | 120 |
| cagcggagat | ggcgcagccg | ctaaagaaaa | acgaacgccg | aagggttaatc | cgtattatct | 180 |
| taattcagag | tttgtaatgg | ggaaggataa | gatgccgccg | cgccaccgg | ataataagaa | 240 |
| agggggaatg | aagagaactg | ctcagggcaa | gtcagaaatt | agggaaacaa | agagacctgt | 300 |
| tgctgatccc | atgaacggca | agatactgca | agatgtcatg | aaacagtgcg | gatttctgct | 360 |
| atccaggctc | atcaaacaca | agcatggctg | ggttttttaa | gccccgtgg | acactgtagc | 420 |
| gctcgggctg | catgattata | acaccattat | aaagcagcca | atggatcttg | gtactgcaaa | 480 |
| ggcgaagcta | aatgcaaacg | agtataaatc | gccacaggaa | tttgcagggg | atatcagatt | 540 |
| gacgtttaac | aatgctatga | cctataaccc | aaatggacat | gaagttcata | tcattggctga | 600 |
| gcagatgttg | cagttttttg | aggaccgggtg | gaaaccgatt | tgtgataggt | atgaagagga | 660 |
| gaagaggaaa | ttgtcatggt | cagtaaatga | tgggctatta | cctggggcaa | gccaaaatat | 720 |
| gaagaatttt | ccttttggtg | aaaccccaaa | gaagaatttg | aagaagacgg | agcctcttct | 780 |
| gggtttgtcg | ccacggcctc | cacctaattg | aaagtccaag | gctaatacga | ctttgcgagc | 840 |
| ccctgctccc | aaaaaaccca | aggcaaaaga | ccttcataag | c | | 881 |

<210> 405
 <211> 434
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 405 | | | | | | |
| gaaattttgat | atatgtgtta | ctagttttga | aatggcaatt | aaagaaaaga | ctgcacttaa | 60 |
| acgttttcagt | tggcgataca | ttattattga | tgaagcacat | cgaataaaga | atgaaaattc | 120 |
| acttcttgca | aagacaatga | gaatctacag | caccaactac | aggcttctta | taactggcac | 180 |
| acctcttcaa | aacaaccttc | acgaactctg | gtctcttctc | aatttcttac | ttccagaaat | 240 |
| ttttagttct | gctgaaactt | ttgatgactg | gttccaaata | tcagctgaca | atgaccaaca | 300 |
| agaagtgggt | caacaacttc | ataaggttct | tcggccattt | cttctacgga | gactgaagtc | 360 |
| agatgttgaa | aagggtttgc | ctcctaaaaa | ggaaaccata | ttgaaagttg | gaatgtcaca | 420 |
| aatgcacaa | caat | | | | | 434 |

<210> 406
 <211> 450
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 406 | | | | | | |
| aagctcggta | attctgttca | tagagcaa | ttaagttcaa | cgctgcca | tactcagatt | 60 |
| ttgggatttt | gctgaaaatg | gggcgcggta | aaatagaaac | caagaagatc | gagaatagcg | 120 |
| tgcgaggca | ggtgaccttc | tgggaagcgc | gaggcggctc | gatgaagaaa | gccttcgagc | 180 |
| tttcagtgtc | gtgcgatgca | gaggtggcgc | tcacgtttt | ttctggccga | ggaaagctct | 240 |
| acgaacttga | aaccagccac | agcaacagga | acaagtatgc | ctgaccatat | tcaacttcta | 300 |
| ctacacatca | atgccgggtg | ttttaatcta | catttattga | tcattgaatg | ttgcttttgc | 360 |
| ttcttcta | gttctaggcg | ggctacattt | aatttagagg | gttcattctg | gaatctgact | 420 |
| agccatcagt | ttctattctg | tgataaggga | | | | 450 |

attcttagtg ctgcaacatc cctctggctg cctgtgcccc ccaaaa

346

<210> 411

<211> 393

<212> DNA

<213> Pinus radiata

<400> 411

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttttggagtc | acagttcgat | caatcatttg | aatatccacc | ggtggagcag | ttggttaagc | 60 |
| agtgtggtaa | atttggtttg | ctagagaggc | tattaaaaca | tttgaaagct | caaaaacaca | 120 |
| agatgttgat | attttctcaa | tggactaaag | ttcttgactt | gctggaatac | tatctaagtg | 180 |
| agagaggata | tgaggtttgt | cgcattgatg | gaagtgttaa | gttggaagat | aggaaaaatc | 240 |
| agataaggga | tttcaatgac | ccagatagca | acttttgat | ctttttgcta | agcacacggg | 300 |
| ctggtggtct | tggaatcaat | cttactgatg | cagacacttg | ttttatctat | gatagtgatt | 360 |
| ggaatcctca | aatggatatg | caagctatgg | atc | | | 393 |

<210> 412

<211> 830

<212> DNA

<213> Pinus radiata

<400> 412

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gttaagcttg | gaacgactaa | cacttggttc | agcagagccg | tctcgggaca | gcacagggcg | 60 |
| cagcagcagc | agcagcagca | ctacgcggaa | cggagcgtgg | aagagggcag | gaaatggtgc | 120 |
| ggctgcgcgg | ccggtctctg | cgactgtatt | cattctaatt | tcttgaagct | ccagaacccg | 180 |
| gcaagtgcgg | gttcgagctc | cgctgccgcc | aacgcgctgt | ccggcagatg | gctaattgcc | 240 |
| ggacctttgc | tgaacgacaa | gattgagggg | agggaaaggg | tcgagctact | tgaggagaaa | 300 |
| attccggggc | agtctattat | ggcattatcc | gcacaattta | agactgcggg | ttctgctgcg | 360 |
| ccagaaagg | ggctgttgaa | tcttcattcg | gcggatgctg | tgaatagcaa | cggagaacct | 420 |
| gtagatagcg | gaggggccc | tggagataga | gacggagggg | aggaggcgga | ggatcatgca | 480 |
| gcgttggtgc | aaagcgccag | gataaaaagc | gacattgtct | cacatccgct | ttacgaccag | 540 |
| ttactgtccg | cacacttgga | gtgtcttcgc | atagcgactc | cgaaggatca | gcactcgatg | 600 |
| attgacgcgc | aattagagca | gtcgcagcat | gtcgtcacca | aatattccgt | ccttggcaac | 660 |
| gataatttcc | tcgtcggcga | caagaaagaa | ctcgatcagt | tcatgacaca | atatgttttg | 720 |
| ctgctttgtt | ctttcaagga | gcagctgcaa | tatcacgttc | atgttcatgt | tatggaagcc | 780 |
| gtgagggcat | gcattgacct | tcagcattct | cttctaacac | taacaggagt | | 830 |

<210> 413

<211> 371

<212> DNA

<213> Pinus radiata

<400> 413

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aagctgtgca | gtacagtctc | agccagcagc | ctctgggact | cgatggaatc | caacaccaga | 60 |
| ccagattaga | atcctagaaa | tgttttacaa | gggaggaatg | cgcaccccca | atgcagaaca | 120 |
| aatcgagcac | attacagcac | agctgaggca | gtatgggaag | attgaaggca | agaatgtgtt | 180 |
| ctactggttt | cagaaccaca | aagccagaga | aaggcagaag | caaaagcgta | acagcagcat | 240 |
| gcaccaggtg | gctgctactg | cagcaaagaa | aactccaaca | acaataatgg | cagataaccc | 300 |
| taatgaactt | cacaagccca | actccaacgg | cacatactct | ctctataatt | tgcttttcac | 360 |
| agcaatgtct | g | | | | | 371 |

<210> 414

<211> 395

<212> DNA

<213> Pinus radiata

<400> 414

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| gagcactcaa | aatggggaag | acgaagatgg | agattaaacg | cattcaaaac | cctagccgcc | 60 |
| gccagggttac | tttctcgaaa | cgcaagaacg | gatttgctaaa | aaaggcattc | gagctttctg | 120 |
| ttctctgcca | tgctgaagtc | gccctgatca | ttttctcgga | aactggcaag | atctgcgagt | 180 |
| ttgcaagcca | cgacgacatg | gcaacaatac | tggaataata | tcgaatatac | acggaaacag | 240 |
| atggaaacat | ggagtcgctg | tcggtccaaa | gcgtgaagg | ttgactagaa | tgagaatttg | 300 |
| aagtttaacc | cctgcaaata | ttatattgaa | gggaaatcat | ggtccaaaat | caagtcgcca | 360 |
| cccaagttaa | agtgcaatgt | aatcacttta | gcttg | | | 395 |

<210> 415
 <211> 413
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| <400> 415 | | | | | | |
| caaattcttg | tactccacct | gcaacgtttc | aaggtaatcg | atctatgagt | gtttttgaaa | 60 |
| ctggaaatga | gcgtaaaaga | ccagctggca | actcctactc | ggccttgga | ttgtctgatg | 120 |
| acattgggga | tgaagatggt | tctgatgatt | gcattccattt | gggagagaaa | aaaagaagg | 180 |
| tgaccttaga | gcaagtgaag | gctctagaaa | aaaatttcga | aatggcaaac | aaacttgaac | 240 |
| cagagaagaa | aatgcaatta | gcaaaggctc | taggtctgca | gccaaggcaa | attgcagtgt | 300 |
| ggtttcaaaa | caggagagca | agatggaaaa | ccaagcaact | agagaaggac | ttcaatatc | 360 |
| tcaagcacga | ctatgattct | ctgaagcaaa | attatgataa | tcttatggaa | gaa | 413 |

<210> 416
 <211> 355
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 416 | | | | | | |
| ggagcaccca | aaatggggaa | gacgaagatg | gagatgaaac | acattcaaaa | ccctagccgc | 60 |
| cgccaagtta | ctttctcgaa | acgcaagaac | ggattgctaa | aaaaggcatt | cgagctttct | 120 |
| gttctctgcg | atgctgaagt | cgcccttattc | attttctcgg | aaactggcaa | gatcagcgag | 180 |
| tttgcaagcc | acaacgacat | ggcaacaata | ctggaaaaat | atcgcatata | cacgcaaaca | 240 |
| gaaacagatg | gaaacatggg | ggcttcgctg | gtccaaagcg | tgaagggttg | tgaatcacia | 300 |
| ttgaaagcgt | tgcacgagag | gatggacaat | ttgaaaaaaa | aggaacgaaa | catgg | 355 |

<210> 417
 <211> 661
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| <400> 417 | | | | | | |
| ctcctctctg | cagagccata | cctcctcaat | atgctttgca | tctcttcttc | gttttgaatt | 60 |
| ctcccgtctc | tgcttaagta | aattctcaca | ataatatata | cagccattct | ctccatattt | 120 |
| ccgtaatcgg | atgatacttc | tggtttttct | gttgctgtca | tcgtgagaaa | gatttgcggt | 180 |
| tgtgtgtttg | ctgaggaaat | ttagtgttgg | tagactctcg | aagcgtatag | ctgagagtct | 240 |
| ttaaacatgg | gtattatggc | ttgctcactg | ggatcccgta | tgctactctc | gtggagcaca | 300 |
| agcttctttc | gtcacaagca | ctttctctag | tagagctatt | atcagaagaa | ctttagggaag | 360 |
| caaggggtag | ttgtctgtat | ttaaataaaaa | tggcgtccaa | tgggattatg | ttcaatgctt | 420 |
| ccaatcgaaa | tttgatcgct | atggtgaatg | aagctccatc | cttcgaagct | aattcaagtt | 480 |
| tggatggagt | gatgaagaat | gtgtcaaaga | ggcattctta | caatacactt | gatgcagacg | 540 |
| aagcagggga | tgaggatttg | ctggacgagt | gcgttcatca | gccaggaaag | aaaagaagac | 600 |
| tttcggtaga | gcaagttcgc | tttctggaaa | agagctttga | gttggaacaac | aagcttgagc | 660 |
| c | | | | | | 661 |

<210> 418
 <211> 323
 <212> DNA

<213> Pinus radiata

<400> 418

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tctagaacga | agcatagcag | aacagcgcg | atttcaccac | ttaggattga | tggagcagca | 60 |
| cccttggcga | ccgcagagag | gacttcctga | acgctctggt | tctgttcttc | gtgcatgggt | 120 |
| gtttgagcat | tttctgcacc | cgtatccaac | tgatgcagat | aagcatatat | tggctaagca | 180 |
| aactggcctt | acaagaagtc | aggtatcaaa | ttggtttata | aatgccaggg | ttagactatg | 240 |
| gaagcccatg | gtggaggaga | tgtacatgga | agaactcaag | gaagaaaaag | tggaccaagg | 300 |
| tacacacaat | tctgaagctg | aaa | | | | 323 |

<210> 419

<211> 1571

<212> DNA

<213> Pinus radiata

<400> 419

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|------|
| gttgttttct | gtacagtgtg | acatggatat | ctgatgttcg | ccacagtgat | tcttatggat | 60 |
| catacatata | tatatattcaa | ccaggtctga | tatatatttg | tgggaatcat | atctaatact | 120 |
| gaaagcattt | gctttctgct | gctgctgtga | tctattccta | tggtctgtat | tcgaatatga | 180 |
| tagattacct | ttactcatat | gaagcctctg | ctgctgctag | ttagtgattt | tatgtttcag | 240 |
| tatatatctt | attctgctca | tgccgggtat | tttatgctgt | ggatatgggc | tgggaattaa | 300 |
| gagtaaccga | ggctcaagag | gccgaagctc | ttagaatcct | gatattttaa | tgtttatctt | 360 |
| tttaacgtcc | tttgagattt | gacttggcct | tggctggatt | ggcggatcat | gtgtgaagaa | 420 |
| gattttgtta | ttataaatca | agttttttta | tacatgatca | tgccaacagc | aaattgtaat | 480 |
| gagtcattgt | cctaattggtg | gccattctta | cagttttagt | gagccaggca | tccttcttgt | 540 |
| agactttgag | gcagcagctc | tggtgttcct | gctattaagg | gatatggcta | tgagctaatt | 600 |
| agaattgagg | gcaacaatgg | aaacgaatct | cttaacgcag | caacaatcag | gttgccatga | 660 |
| tgctgaagag | gactatgatg | gtggttattg | agtgttgatt | aaataacaga | ccccccaaca | 720 |
| atagaaacag | aacatcagtt | ggatgctggg | tatagttgag | acagttgggt | tatgactgta | 780 |
| aaactgaaga | cattgggatg | caatggattt | gagtcagaat | ggctgcatga | cagtggttat | 840 |
| actttgattt | agctgggggt | gtggtgatgg | atatatggca | gccgtgggtt | tggattttca | 900 |
| tgggagtggc | tgcttgatca | atatatggca | gtttctactt | atgtggacta | gtatttcaca | 960 |
| aaggggaatg | cctatatgga | agtagtttta | taaccatggg | tatggattta | agtttgatca | 1020 |
| attgtatgaa | agtgtgtaca | tggctctagt | taagggcacg | aggataggaa | gctctggata | 1080 |
| tggacttcag | cttgggtggc | gtatgacact | gggtgccttt | atatgcttaa | ggatttgagt | 1140 |
| tgggttcatt | gatttcattt | tggtgcagat | aatttgagaa | gcaatccggg | gatgaatcta | 1200 |
| aacgatcata | cttacaattt | atcacctatg | gctaattcag | gaaatcctga | agagcagatt | 1260 |
| gatgaggatg | cagtggatga | ctttatgaac | taccaaccgg | agtctaaaaa | gagaagactt | 1320 |
| acagtagaac | aggtgaggct | tttagagagg | agtttcgaaa | tcgagaccaa | gctggaacca | 1380 |
| gagaaaaaga | tacagttggc | tcaagagctt | ggacttcaac | cccgtcaagt | agctatttgg | 1440 |
| ttccagaaca | gaagggcgag | atggaagacc | aagcagcttg | agagagatta | cagcgttctc | 1500 |
| aaagctagtt | atgatgcttt | aaaatctgat | tttgagagat | tgcagcagga | aaacaaaaat | 1560 |
| atccgtgccg | a | | | | | 1571 |

<210> 420

<211> 339

<212> DNA

<213> Pinus radiata

<400> 420

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gattatctca | tcacaaaaat | ctttaatttg | ctctttgaac | cattctgcat | catgtttaca | 60 |
| ataagtacct | gtacaactca | cgcacaatct | ctgatataca | gttttggtgc | gaggggcacc | 120 |
| gtggtgcttg | cggagtacac | ggaattcaaa | ggcaatttta | caggtattgc | cgctcagtgt | 180 |
| ctgcaaaagc | ttcccgcag | caacaacaag | ttcacataca | attgcgataa | tcataccttc | 240 |
| aactaccttg | atgaagatgg | cttcgcatat | tgtgttggtg | cagatgaatc | cgttggaagg | 300 |
| caagtaccaa | tggcatttct | ggagcgtggt | aaggaggat | | | 339 |

<210> 421
<211> 332
<212> DNA
<213> Pinus radiata

<400> 421
tgggtgcca ggcaatattc atgatgacga tgaagaagaa gatgaggagg agtgcagcgg 60
gactgggcag caaacgagga agaagaggag gctgagcttg cagcaggtga gatctctgga 120
gaaaaccttt gaggttgaga acaagcttga gccagaaagg aaattacaac ttgcacagga 180
attgggcttc cagcccagac aggttgctgt ttggttccag aataggcgtg ctgctggaa 240
aaccaagcag ctgagagag attacggaca gcttaaactc aatttcgagt gccttaaactc 300
gaacttcgat gccatcaagc aggaaaacca ga 332

<210> 422
<211> 461
<212> DNA
<213> Pinus radiata

<400> 422
ctgaagtgcc gtcgattgtt cgggaggata gcgttttcga agttcgttgt tgagttatct 60
cgcgagactg tagaatttta ggggtgtttt ccacaaaccg acttttcccg acttcaaactc 120
ttgatattga agtgacatgg ccggcgagaa aagaaagatt aatagaatag ctaacgcttc 180
ggccaggcag gtcaccttcg cgaagaggcg gagggggctg ttcaaaaaag ctgaggagct 240
atcgatttta tgcgaagccg atgtagccct cctcgttttt tcttcaactg gaaagctgta 300
ccagtactcc agctccagca tgaaaatgat attggaccag tatattttgt attctagatc 360
aattcaaaag gatggaaagc caaatctgga ggagagtcac gatattccaa agataaaaaca 420
acaaattaaa gatatttagtc aaaatttgag aaaactgcgt g 461

<210> 423
<211> 622
<212> DNA
<213> Pinus radiata

<400> 423
ataatcctct cctacatatt gectcttctt ttctctctct cttcatcatc agtcaatttt 60
cccttgagga ttttacattc ttaagaaaca gatgggtatg gatatggagg actgcaatac 120
agggtttggt ctgggaatga gtattggcct tgggatgaat ctaatgagag aagaccttca 180
atctcacaga catcatgtca atggccctcc tgtgcagttg gatctgctgc ctttagctcc 240
agtactgccg tcccgtgact tgccatgggg gaagacttca cccgggactg atggcgagag 300
atcgcccggg gaatcgaag caaccgtgcc caggcgaatc gatgtgaaca aattgccgcg 360
ttctgtttac tacaacgaag acacgggcac cattaatgtg tcttcccaa acagtgcctt 420
atcgctgttt catgtggact ccggtggcgc gatcaacgct gagagcagct gctacggcat 480
gagcgtcaag agagagcgcg aagccaccga ggaattggag gcggagagag cttgctctag 540
ggttagcgat gaagaagctg atcaggaggg cggcaccagg aagaaactca gattgtccaa 600
ggagcaatcg gctcttttgg ag 622

<210> 424
<211> 373
<212> DNA
<213> Pinus radiata

<400> 424
attcaaaatg ggaaagaagt tggagctgaa acgcatccaa aaccctaata gttcacgtga 60
ttctttctcc aaatgcaaga ggggactgct aaagaaatcg gtcaagctct ttgttctctg 120
tgatgctgaa gtttccctca tcattttatc tgaaaccgcc aagatttacg agtttgcaag 180
caacaagtcg tgactagctc ttgtgaattc ttctgatcaa gttagagatc catatactga 240
tatataaaag catactttca cattgcaatt ggagcagatc tagatgcaga agtgcaacct 300

| | |
|--|-----|
| tattatacct aaaggccatc agctgcaa at caagacccat tttctatctt ttgagatcgt | 360 |
| gatacagagt ctg | 373 |

<210> 425
 <211> 440
 <212> DNA
 <213> Pinus radiata

| | |
|--|-----|
| <400> 425 | |
| ttcgatttca ggctcaagac ttccagaagc agggaaacaca acttcgccga aaaatgtggt | 60 |
| ttcagaacat gaaagtcaaa ctgggtgttc ttggaattgt ctttgtgttg attcttataa | 120 |
| tctggctctc aatttgccat ggatttaagt gccattaatc ttgattactt ggcagtcctt | 180 |
| tctagataca atccttttca ggcatttata ttcatTTTTT ggcagcttgg cttataatag | 240 |
| atgcaggctc tctttgaaaa gagtatcttt tgtgttgtgt ctgagtaatg tatttcattc | 300 |
| acttgatac tgtcatcatt agatactgat tatctatgtt tttctctgac gagggacaat | 360 |
| gcctcgactc ttcatagttt aggttattgg cactacccat cagctgtgat gtcaatctct | 420 |
| tttataaata tgaatccctg | 440 |

<210> 426
 <211> 280
 <212> DNA
 <213> Pinus radiata

| | |
|---|-----|
| <400> 426 | |
| gtttcactcg ttctgccccg tctggattgg gctgcactga aatacattga acattggagt | 60 |
| tgctgagcgc gagatatggg tcagcagtc ctcatttaca gctttgttgc aaggggcacg | 120 |
| gtggtcttgg ccgagtacac ccaattcacg ggcaatttca caacaattgc caatcaatgc | 180 |
| cttcagaaga ttcttgccag caataataag ttcacctaca attgcatcg tcacacattc | 240 |
| aattatctcg tcgaagatgg ttcacatact gtgttgttgc | 280 |

<210> 427
 <211> 539
 <212> DNA
 <213> Pinus radiata

| | |
|--|-----|
| <400> 427 | |
| caacagcgaa gccgatttcc aaagatggat agggagaaac tcatgaagat ggctgggtgca | 60 |
| gtccgcactg gcggaagggt tacaatgcga aggaaaaaga agacaattca taagactgcc | 120 |
| acggcagatg acaagagact tcaaagtacc ttgaaaagaa taggcgtgaa taacatccct | 180 |
| gctattgaag aagtcaatat ttttaaggat gaccatgtta ttcattttgc taacccaaag | 240 |
| gtccaggctt ctattgctgc caacacatgg gtggttagtg ggtcatcgca aacaaaaaaa | 300 |
| cttcaagatc ttttccctgg tatcatcaat cagcttggac cagagagttt tgccaatctg | 360 |
| aggaagattg cagaccagtt tcgaagaccg gaaccaaadc ctgcacaggg agaagatgat | 420 |
| gatgatgacg atgtaccaga gctcgttgaa ggtgagacat ttgaggaagc agctaagaaa | 480 |
| gactcctctt aaattttaat agatgagggg gcatgggatg tggaaacaagc tagactgaa | 539 |

<210> 428
 <211> 1020
 <212> DNA
 <213> Pinus radiata

| | |
|--|-----|
| <400> 428 | |
| cattagcgca aattcattcc ccttttttggc tctgcccag cttggggcaga ttacagagaa | 60 |
| accctagtct cgtggattct cgatcgaaat ctgcacggcc tgtatacagt cttagcacat | 120 |
| tactgagct gccataggtt tcttggaaact cttttttccg cggctcttgc gagtttcaca | 180 |
| ggttttttgtt tgattgtatt ttgagggttt ttctttcttc gaggggtttt ttttcccggt | 240 |
| tttgtcccct tattctttca agacatctca gaatgatgca gccagccgtc ggtgttgcct | 300 |

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|------|
| ctccccctcc | tgttgctgca | cccgcaatgg | atccccagca | gcagcaacag | caatggatga | 360 |
| tgatgcagca | gcagatgcag | cctcagcagg | ctcagcctca | gccgcctcct | caggctgggt | 420 |
| tttgccccc | gcaacaccaa | ccccaacccc | agcatgccca | atcgagctt | atggctcagc | 480 |
| aatacccgca | gcagccgacc | tcagctgacg | agattagaac | cctgtgggtc | ggagatttgc | 540 |
| agtattggat | ggatgagact | tatctgcatg | gttgttttgg | taatagccaa | gaggttgttt | 600 |
| ctgttaaaat | tattcgcaat | aaacagactg | gacaatcaga | gggttatggc | tttgtagagt | 660 |
| ttgcaagcca | tgcaggagcg | gagagagctt | tgcaaactta | caatggtgca | cagatgccca | 720 |
| acactgaaca | attttacagg | ataaattggg | caaccttttg | cattggagaa | aagcggcctg | 780 |
| agattggacc | tgattatcct | atatttgttg | gagatttagc | atctgatgtg | acagactatt | 840 |
| tgttgcaaga | gacattccga | actagatacc | aaactgtaaa | aggagccaag | gttgttactg | 900 |
| ataggggttac | aggccgttca | aaaggatatg | ggtttgtaag | gtttggggat | gagaatgagc | 960 |
| aagttcgggc | tatgacagag | atgaatgggg | tgttttgttc | ctcaagacct | atgcgaatag | 1020 |

<210> 429

<211> 246

<212> DNA

<213> Pinus radiata

<400> 429

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gcctcttttg | gtttaggaga | aagacgcctt | ctaacaggac | cagagcattc | tatatttgta | 60 |
| ggagatttgg | ctccagatgt | cacagattat | ctgttacaag | agacgtttcg | atctcgatac | 120 |
| acatctgtga | gaggtgcaaa | agttgtaaca | gatccatcca | caggccgttc | aaaaggttat | 180 |
| ggatttggtta | agtttgctga | tgagaatgag | agaaatcgtg | ccatgactga | aatgaatggg | 240 |
| gtttat | | | | | | 246 |

<210> 430

<211> 323

<212> DNA

<213> Pinus radiata

<400> 430

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| caaggcaaga | gccaaagtcta | aagaagcaga | ttatagagac | atcagagaaa | gccatagttt | 60 |
| tctcccagtg | gactagtatg | ctggatttgc | ttgaggttcc | actaaaaaaaa | tcgtgtatac | 120 |
| aatatagaag | gctggatgga | actatgtctg | taatagcacg | ggataaagct | gtgaatgatt | 180 |
| tcaagacact | ccctgaggta | actgttatga | taatgtcctt | gaaagctgca | agtcttggtc | 240 |
| tcaacatggg | tgctgcaagt | catgtttctt | tgcttgatct | ttgggtggaa | tccaacaac | 300 |
| tgaagaccaa | gctattgaca | ggg | | | | 323 |

<210> 431

<211> 414

<212> DNA

<213> Pinus radiata

<400> 431

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| ccctcggctt | cgaagactac | gtggagccgc | tcaagatata | tttgaataag | tacagggagc | 60 |
| tcgaggggga | gaagtcttcc | atggcggcgc | cgcccagaca | gagcgacctg | cagcagcacc | 120 |
| accatgtgaa | cggaagcgat | ccgcattccat | atggccattc | gccccacggg | cctatggctt | 180 |
| accacgtgcc | cggaggtgcg | agctttcggg | catggaagg | gactgtggcg | tgttcatttt | 240 |
| gttattgtaa | agaagtgata | gagatggaaa | tgggtcatgg | taatggagac | tgtaaagt | 300 |
| aaactataaa | atgtaaagtt | gaattcctct | ctgatgttca | gtgtttactt | tttttgaatt | 360 |
| ttattttttg | cccccttttg | cattgtacag | tctgtagctg | tgcatgactg | actg | 414 |

<210> 432

<211> 525

<212> DNA

<213> Pinus radiata

<400> 432
ctgaaatatac gttaaattca ctcttttgggt ctcagttact gcgtcgccaa tatggaaaat 60
ctccccaatc agcaacctga ccttgaaatt gctcaaacac acgaggatcc cgggtcccgc 120
caatttaagg gaattcgact gcgaaaatgg ggaaggtggg tatcggaat ccggataccc 180
aaatctcgag agaaaatatg gctgggctct tacacgactc ccgagcaggc tgcccgtgct 240
tacgacgccg cagtgtattg tctgaaaggg cccaacgcc aattcaactt tccggaacc 300
gtgcacgaca ttccgtctgt gacttctgtt tcccgtcagg aaattcagca cgccgccctc 360
aaatatgcct tgggccagcc ccctccgagt ttgcagtctc tgggaagggca cgccgccctc 420
aaatatgcct tgggccagcc ccctccgagt ttgcagtctc tggaggggca cgccgccctc 480
aaatatgcat tgggccagcc ccctccgagt ttgcagtctc tgcaa 525

<210> 433
<211> 1196
<212> DNA
<213> Pinus radiata

<400> 433
ttcgcttcg aacataagcg cggttccagc gttcgtaaca aacttttgtg gccccctttt 60
atcgggagat cgcgggttcg agtcggttct tgtgttttct ccgctcggc agcactcagt 120
tcagggtgcc aaaaattgat cgttttcggg caaatttcgt taatttccga ggacgacttg 180
ctagttgtat ggttttaatt ttttttttca acgaagaaa gtattaaaaa ttccagcatt 240
tacagttttg aggtcatag accgagggaa ttgcgatata aagcaacctt ctgcccttta 300
gctggcaccg gcagcagaac gggttggaat ggagttttag aagtatcaga ttgactattc 360
gctgtagaaa aggcaagagc ctgtctgaat ccgcattgga gctgccagat cttgtattct 420
aaggcaaaac ctggggcgag aaagatttcc acggccattt agaaaccgag ggctcaagga 480
ccattatattt gcaataaaat ttctcggatc gtggctatgg ccttcaccgg aacgcagcag 540
aagtgcaaag cttgtgacaa aacggtttat tttgtggatc aactgtccgc ggatggagtt 600
tcttaccaca aggtttgctt cagatgcaac cattgtaagg gaacgcttaa gctgagtaat 660
tactcgtcaa tggagggagt gctatattgc aagcctcact ttgaccagct tttcagagag 720
agcggcaatt ttaacaagaa ctttcagtc ccaagatcaa gcaaagcaat tgacgggtctt 780
tctctgaaa tgacaagatc tcctagttaa gtgtccatga tgttctctgg aactcaagac 840
aaatgtgcta cctgtggaaa aacagcatat cctcttgaga aggtcactgt ggaaaactta 900
tcctaccaca agtcttggtt caggtgttct catggggggt gttcaatcag tccttctaata 960
tatgctgcac tagaaggcat actgtattgc aagcatcatt tttcccagct tttcaaggaa 1020
aagggaagtt acaatcatct cattaagact gcttctatga aacgagcagc tgcagtcctt 1080
gaggtagcaa gtgcagttcc tgagatataa ttttactgtg atctagttac ttcattacca 1140
tttgtgtttg tattttgaag agtttacacg gtatgctagt ttgttgggga aaagag 1196

<210> 434
<211> 726
<212> DNA
<213> Pinus radiata

<400> 434
gttcaattttt ttactttgca gtggaaatag aagcctgcag gtacctctag gctaccggag 60
ttcaaattccc gcacgatcac actcccttct tttaacattc cgagttcgaa tccccggaaa 120
cttctcgaca tggttaagcc ctcgcaaaaa cagaatatcc atgtcaatgg caagccggaa 180
agccgctcac tgatgtcgcg gcaattcaag ggaatccggc taaggaaatg gggaaaatgg 240
gtgtccgaaa ttcgatgcc caattgcagg gccaaaattt ggctgggctc ctacgaatcc 300
ccagagaaag ctgcccgcgc ctatgacttt gcagcgtatt gtctgagagg atccaaggcg 360
aggttcaatt tcccgcactc accgcgggaa attccttgcg cctcttctct atcgccgtcg 420
caaattcaag ccggtgcggc ccggttcgcc gcagaagaat tccagatgcc gtcagatgac 480
gacacggcgt catcgtcctg cggttctgaa gcggaatccg acttgccgcc ggaaattcca 540
tgccgctctt ctgtatcgcc gccgccaatc caagccggcg cggccagggt cgccgcagaa 600
gaattccggg tgcgctcaga tgaggacacg gcatcatcgt cctgcgggtc ggtaacggaa 660
tccaacattg acagccaaca gatttcggcg gagcagggtt cggcattttg ggattcacta 720
ttcctg 726

<210> 435
 <211> 266
 <212> DNA
 <213> Pinus radiata

<400> 435
 catcaatggc atcgcttttg ttcccgcagg ctatgctgca ctgccctgca caatacacag 60
 aagcaatgca ccaaattctgc agccacaggt aagggcgagg tcaagaggat tcgtaggcaa 120
 caggaggctg ccccttcgcc gccagaggag gcaactttga atcagcaaac tccaccgtac 180
 agaggcgctg gtctgtcgaa ctgggggaaa tgggtgtccg aaattcgaga accgaaaaag 240
 aaaacccgaa tctggctcgg ctccctt 266

<210> 436
 <211> 1775
 <212> DNA
 <213> Pinus radiata

<400> 436
 acggaccaga gattttccaat atcggcgctcg caagtctttg agtatacggg acgattcccg 60
 ccgtcgatcg taattcgtag aatctggacg cggctacaaa atcgctgccc gactccaacg 120
 ttttctccag ttcggccagt gaggaagttt gaggggtcac gttattgaga gaggacgcta 180
 tttggttgcg atttcgagtg ctgtaagcag gcaacgacgc ctgttttgct ttagagttta 240
 acagaaaaga agaattgtgtg gaggtgctat catctcggac tttataatac cccctgcgag 300
 ccgaggccgc cgggtgactg ccagggatat atggcccgat tttgataagt tctctgagtt 360
 tattaatgga ggtgctgagg tggagtcctt tgatgtcagc gttgatgtcg atgacgacga 420
 ggaggattcc gacgatgacg agttcctcga ttttgaggag agctatcaga acaagaagaa 480
 gaagcagcaa cagccgatat cccccaccaa ggggttcgag ctccctttag ctccgggtct 540
 tgatggaccg gcggccaaga gcgcggtgag aaagaggaag aatttgtaga gagggatcag 600
 gcaacgtcca tgggggaaat gggctgcaga gatcagggat ccagaaaaag gcgctagggt 660
 ttggctgggt acctttaata cggcgaggga agctgctcgg gcttatgatg cagctgcacg 720
 aaagatcaga ggtaagaagg cgaaagtaaa ttttggtgat gagccaccac cctccgttaa 780
 gaaggaaagt aataatgcta agggttccaa gaaagggtcc agcaagaaaa taaaatcata 840
 tactaccca aaggctgact ttttcgaagg tttcaaaacg gcgaaccctt cgattgcca 900
 atacaacttc catcagaaat tcccaaacc tagctgtgat gatctagggt atcaaaacc 960
 cttgtcgcca ttacatgcca tctgcaatcg aaactttgcc gccaaacagt caagttccgc 1020
 gttgcctgca tactccactg agttttctga tttcgatgat tccgaggtcg ataactctgt 1080
 accccagcct gcgagttttg aaccgatgaa aaacataaat aaacgaaaag ggtataattc 1140
 ctttgagtcc gacaccagca gcgtgtctgc tgatagatcc catatctcgt gggttacaga 1200
 agtgaiaacc cctgaaatat cttctgtacc aaaagccgaa gccgactctg atcattatga 1260
 ttttgctgat atgtctacgc cgggtgagac cagtgtttca gcaggcagcc ctgaggtaca 1320
 gcttccctca ttttaaatat gtttgaacaa atcccctagt gttgaagatg gcgtcgctgc 1380
 cgaaaaatcc cctaaatttg aggaagttc acagttggag atctctgagg acttgccttc 1440
 tttggaatca tatccgtggt tgttccagat gccgtatttc gagggcctgg atcagtcgtt 1500
 gcagggtgtg ggtattggtg acgcttcggt tccggacggt gagaacgact tgcagctttg 1560
 gagttttgat gccgtgccta tttccgattc agcttattga attagccttg aatctcttgc 1620
 ttgtaaacag taattagtaa ttatgtaaga atcaaggaga cttgttatgg cttcgttttg 1680
 caggccttcg tctaataagg aacttgttta gatttttccc cttttttttt tttaaattca 1740
 gtttgacggt gccactgtga tttaatctgc acatt 1775

<210> 437
 <211> 585
 <212> DNA
 <213> Pinus radiata

<400> 437
 accttttggc tacatcctca ctatctttcc atttggtaaa gttgaagggg accgagtgtt 60

| | | | | | | |
|---------------------|---------------------|-----------------------|---------------------|---------------------|---------------------|-----|
| at tt t t a g a t a | a a a g t t a a g a | c a t t t t a t g a a | a t c c a a a t c t | a a a a c c a g c a | a a a a c c a a a c | 120 |
| t c a g t g t c g a | t c t c a t c g a t | c a g a g t a g a c | c a c a a g t a t t | t c t g g t g t g a | a t c a c a t c g g | 180 |
| a g a t g g c a t t | c g c a g g a a c a | c a g c a g a a g t | g c a a g g c a t g | c g a g a a g a c g | g t g t a c g t g g | 240 |
| t g g a t c a g c t | c a c a g c c g a t | g g t t c a g t c t | t t c a c a a g g c | c t g c t t c c g c | t g c c a t c a t t | 300 |
| g c a a t g g c a c | c t t a a a g c t c | a g c a a c t a t t | c t t c t t t t g a | a g g g g t g c t g | t a c t g c a a a c | 360 |
| c t c a c t t c g a | t c a g c t c t t t | a a g a g g a c t g | g a a g t c t t g a | c a a a a g t t t t | g a a g g a a c t c | 420 |
| c c a a a g c t g t | g a a a a a t g a g | a a g t t g a a t g | a t g g t g a g a t | t a a g a c a c c c | a a c a g g g t c t | 480 |
| c t g c t t t g t t | t t c t g g c a c a | c a a g a g a a a t | g c c t t g c t t g | t g g a a a t a c a | g t t t a t c c c a | 540 |
| t t g a a a a g g t | t t c t g t g g a a | g g t g t g g g a t | a c c a c a a g g c | a t g c t | | 585 |

<210> 438
 <211> 351
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----|
| <400> 438 | | | | | | |
| g t t t c g g c c t | t t g g a a g a g c | t t c t g a a t g a | t g t a a a t t g g | a g g t c c t g t t | g c c g g c t t a g | 60 |
| t c c a t g t a t t | g a t t t g g g t t | t t t t c a c t t t | t g g g t t t t t t | c g a t t t c t c t | g g g g t t t t a g | 120 |
| g g t a t g g a t g | g a t c t c a g a a | c a g c g g c g g c | a a t g c g g t g c | c t c c g t t t c t | a a c c a a g a c g | 180 |
| t a t g a c a t g g | t g g a c g a c a g | c t c c a c g g a c | t c g a t a g t t t | c a t g g a g c c c | c g g g a a t a a c | 240 |
| a g t t t c a t t g | t g t g g a a t c c | c c c g g a a t t t | g c a c g a g a c t | t g t t a c c c a a | g t a c t t t a a g | 300 |
| c a c a a c a a t t | t c t c c a g c t t | t g t c a g g c a g | c t c a a t a c a t | a t g g c t t c a g | g | 351 |

<210> 439
 <211> 292
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----|
| <400> 439 | | | | | | |
| c a t g a g a a g a | a g g c a g t a t t | g t g g a a c a t g | g a t a c t c t c a | a a g c t a a a g g | t t c c c t t g a a | 60 |
| g a g c a t t c c t | t t t t g a t c a c | t g a t g t g c g a | t t c a g t c c t a | a t t c a a c g c g | c t t g g c t a c a | 120 |
| t c c t c t t t t g | a c a g a a c a g t | c a a a g t c t g g | g a t g c a g a c a | a t c c a a a c t a | t a c c t t g c g t | 180 |
| a c t t t t t c t g | g t c a t a c t g g | g t c t g t a a t g | t c t c t t g a t t | t c c a c c c g a a | c a a t g a a g a t | 240 |
| c t t a t t t g c t | c t t g t g a c g g | g g a a a g t g a a | g t c c g t t a c t | g g a g t g t t a a | c c | 292 |

<210> 440
 <211> 352
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----|
| <400> 440 | | | | | | |
| a a t g g g c t a t | t t a c a g g a a c | t t g a a g a t c a | g a t a a t a g g c | c t t c a a a a t c | t t g t g a a a c g | 60 |
| g a a t g a a c g c | t t a t a t g g a t | c t g g a a a c a c | c c c t t c t g g a | g g a g t a g c t t | t a c c a t t t a t | 120 |
| c t t g g t t c a g | a c c c g t c c a c | a g g c a a c g g t | t g a a a t t g a a | a t c t c t g a a g | a c a t g c a g t t | 180 |
| a g t t c a c t t t | g a c t t c a a c a | g c a c a c c t t t | t g a g c t c c a t | g a t g a t g c a t | a t g t g c t c a a | 240 |
| a g c a a t g g g a | t t t t g t g a a a | a g c c a t t t a c | t g a t g g t a t g | g a t g t t a c t g | g c c a t g a t a g | 300 |
| t t t t g c a a a t | g g a a c t g g a t | t c g g a g a a a a | t a a c a t g a c t | a t a a c t a a c a | t g | 352 |

<210> 441
 <211> 441
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----|
| <400> 441 | | | | | | |
| g a c a a g a g t g | t t g c t g a t t g | a t g a c c a t c c | a c t g t t c c g g | g a g g g a c t g g | c a g g t g c g a t | 60 |
| c c a g g c c g a g | c c a g a t t t c g | a a g t c g t c g g | c c a g g c c g g g | a c c g t g g a c g | a g c t g c g c g g | 120 |
| g c t t g c g c c g | c a g a t c g a g c | c g g a c g t c g c | g a t c g t c g a c | c t g t t g a t g c | c g t c g g t c t c | 180 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cgggatcggc | gtcaccgcg | agctgtgcga | gctgctgcct | aggtgccgcg | tgctggggct | 240 |
| gtcggccgtg | gtcgacgcg | ccgcgatcgc | cgagatgctg | cgcgccggtg | cgagcggggt | 300 |
| cgcgctgaag | accagccgg | cgccggacat | cctcgatgcg | gtccgccgca | ccgtggccgg | 360 |
| cgagagctac | ctgccgcga | gcgtgtcgcg | cgaggcgatc | gacgccgagc | tcgccggcgg | 420 |
| cgccccgcca | tcgctcgcgc | a | | | | 441 |

<210> 442
 <211> 1056
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|------|
| <400> 442 | | | | | | |
| accgagtgga | gtgggggtgtc | ctaaagggag | cgatgtatta | ttgttggtgc | gaggaagcag | 60 |
| atgagaagga | ggggaggccg | gtgtttgagg | gttcagatg | ttccattacc | aacgaaaaat | 120 |
| ccaggtaggt | cttcattcta | ttccttcaat | catggatccg | ccctactctc | agtaagctat | 180 |
| ataagatcat | tcattcattc | aatcaaatcc | attggagtgc | ctgttctggt | atacttcttt | 240 |
| gcattggagg | tcttgggggt | tgaccttact | cgttcgttcc | tcgaagccct | tgcccgcttc | 300 |
| ccatttacia | taacttgtgt | tggtgcggat | ttgcacatgg | tgtatgctgc | cgaccagag | 360 |
| gaaccccgga | tcgtatatct | ttgtgactgt | aacaaaataa | ttcttgaggg | tttccgctac | 420 |
| ggcaagtttg | aggcttggga | ttttgaccca | gatctgtgtt | gctgtttgat | tcgcaagct | 480 |
| tggggagatc | aggatctgct | ctttgttgta | aatgtcgata | ttacccaaat | cagattccat | 540 |
| tcataattagg | gaagtatggg | ccgataatct | ggaagaggag | tttaactctga | tcagggaat | 600 |
| tggtgatgac | tacctctga | tagccatgga | cacagagttc | cctggcatag | ttgtgcgacc | 660 |
| cgtgggcaaa | ttcaggaccg | tccaagaata | caattatgaa | accctaaggt | caaagttaga | 720 |
| cgtattgaaa | ttaatacaat | tggggctgac | gttttctgat | gaagacggca | acctcccaaa | 780 |
| ctgcggcacg | gacagatact | gcgtgtggca | gttcaatttc | agggaaattca | acatctggga | 840 |
| ggatgcttac | gcctccgatt | ccatcgagtt | gctgcgccag | agtggatctg | atttcaagaa | 900 |
| gaacagcgaa | cggggcgtag | actctcacct | cttcgcagag | ttgctcatgt | cgtctgggat | 960 |
| cgtcttgaat | gagaacgttc | gatggatcac | cttccacagt | ggctatgatt | tcggttacct | 1020 |
| gctcaagctc | gtaatgaatc | ggagcctgcc | gcctac | | | 1056 |

<210> 443
 <211> 367
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 443 | | | | | | |
| gagcatgctt | gtcctatggc | ctgtcaccgc | gggccctgcc | ccccttgtct | agtgagcgtg | 60 |
| agcaagagct | gttggtgtgg | gagtaaaacg | cttgatcac | gggtgctcagt | actcaacaaa | 120 |
| gggacgtcaa | caaagccgg | tggtgggcct | gttctatcgt | gtgggtcaacc | atgtggacgt | 180 |
| ctgctagggt | gcgaaaagca | tacttgcgag | caagagtgtc | accaggacc | ttgtccacc | 240 |
| tgcgatatcg | tagatgttgc | aaagtgttat | tggtgtagac | aagaaagggg | gatggcatgc | 300 |
| gggacaggta | tagtcgagac | ctgtgtagta | gaaggagagg | gttcctggga | aggcagatgg | 360 |
| caatgcg | | | | | | 367 |

<210> 444
 <211> 553
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|-------------|-------------|-------------|-----|
| <400> 444 | | | | | | |
| ggtttgtcag | atttggtgac | gagaatgaga | aaaaccgagc | catgactgaa | agaatgggtgt | 60 |
| ttattgctct | tcaagaccta | tgcaatttaa | tgaagctaca | ccaaagaagt | ccttgggatt | 120 |
| tcaacaacct | tattccatga | aaggtaacta | ttacacacag | gcatatgggtg | gtgcagttgc | 180 |
| tagtcaggcc | ttccagtcag | acaatgatcc | aaataatata | actatatttg | ttgggtgggtt | 240 |
| agatccaaat | gcgacagatg | aagatctgag | gcagggttttt | gggcatatg | gagagattgt | 300 |
| gtatgtgaaa | ataccagtgg | gcaaaggatg | tggttttgta | caattcacca | acaggtcctc | 360 |

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| ttgaatcccg | gccaaatacc | gcgggcgagg | acgaggacga | ccacactccg | gcctaaattc | 180 |
| gccgcctttt | ttataattaa | aaacataaaa | aggccgacgc | catgaacgaa | ccagacgagc | 240 |
| acgccgctgc | tcagctcgtg | cagaagcgta | gccacccgct | ggcggagggtg | gttatgccca | 300 |
| tctccgtccg | tccgctggcg | gagaaatgcg | gcgtggaggc | ggaggaggag | aggaagcggg | 360 |
| cggcggagca | caagaagcag | cggtccaaga | actggacgcg | agcggagacg | ctgaaactca | 420 |
| tccgcctgcg | agcggaaatg | gagccgcggt | tcgcgcgcag | cgggcggaag | tcggagctgt | 480 |
| gggaggagat | cgctgaagcg | ctccgccgag | agagcgtggt | ccgagacgcg | cagcgttgca | 540 |
| gagacaagtg | ggagaaattg | acggcgagct | ataaggaagt | ccgcgacggg | cagcgcgaca | 600 |
| ggcaggactt | cccgttcttt | gacgagctgg | acccgctgct | atctctcaag | cctcagaagg | 660 |
| cggcggcagc | ggccgcgcgt | gccgctaccg | ccgccacggc | ggcgaatttt | gtttccgccg | 720 |
| agactcccag | caattttccg | actgacgacg | agatgacgga | agaaggggtcc | cctgctggga | 780 |
| agcggagaaa | aacgactcca | agaggcctct | cggcgacgga | cctggacgct | gttcgtgagc | 840 |
| tccctggagag | cctgggtgagt | cggcagcaga | ggtttttcgt | ggatctgctg | gattccatgg | 900 |
| agcggaaaga | ggaaatccgc | gagcggattc | gtcaagaaaa | ggagga | | 946 |

<210> 449

<211> 1140

<212> DNA

<213> Pinus radiata

<400> 449

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|------|
| gcttttatgga | gttcatatca | cgtacagcag | ctgagaagat | tatgcaaact | tataacggga | 60 |
| cattaatgcc | caacactgaa | caagctttca | gaatgaattg | ggcatcattt | agcatgggag | 120 |
| aaaggcgtct | ggatggagggt | ccagattatt | ctatttttgt | gggagatttg | gattcagatg | 180 |
| tctcagattt | ggtccttgca | gagactttcc | aaactcgata | tccatcagtg | aaagctgcta | 240 |
| agggttgcac | ggatgcaaac | acagggcggt | caaaagggtta | tggattttgt | aggtttggcg | 300 |
| aggagagtga | gagggcccca | gccatgacag | aatgaatgg | tgtatattgt | tctactagac | 360 |
| ctatgcgaat | cagtgcagcc | accccaagga | agtctgcagg | agttcagcaa | cagtattcag | 420 |
| gaagagcagg | caatggtgga | tctcatgccc | aaggattccc | gtcagacaat | gataaacaat | 480 |
| acaactatat | ttgtgggacg | gctagatcca | aatgctacag | atgaagatct | gagacaagtc | 540 |
| tttgccagtg | atggtgatct | tgtgtccatc | aaaatacctg | ttggtaaagg | ttgtggattt | 600 |
| gtccagtttg | cgaacagggc | ttgtgctgag | gaagcattgc | aaaggctcca | tggactgttt | 660 |
| attcgtcagc | aaactatacg | cctttcttgg | ggtcgaagcc | ctgcaaacaa | gcagaattct | 720 |
| cagccacagg | ggcaacagcc | tcagtctgat | ccaaatcaat | ggaatgggtgc | ttactatggg | 780 |
| caaggctatg | aaagctatgg | ttatgcccc | cctcctcaag | atcctgcaat | gtatgcttat | 840 |
| ggtggctacc | ctggatatgg | gaactataat | cagcaggtta | gctagagtta | caagtctcta | 900 |
| aagcttggtc | acactaatgt | tgcaagggct | gtttatttgc | ccttcaagtt | ggcttcattt | 960 |
| gttttcagtc | tggaggctgc | aattgttttg | ttttctttac | caggtatagc | aacgtatttg | 1020 |
| ctagttgtgt | aagcacataa | aaattattgc | ttcatattca | ggttttcatt | atctgagatc | 1080 |
| aacatatatt | ttccctagtt | atattacata | tttccttata | attttaaaaa | aaaaaaaaaa | 1140 |

<210> 450

<211> 390

<212> DNA

<213> Pinus radiata

<400> 450

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| acatcatacc | accgaccttg | cttcaagtgc | tgtcatgggtg | gttgtgtcat | cagccctca | 60 |
| aattatgttg | ctcatgaagg | caggctatat | tgtaggcatc | atagctctca | acttttttagg | 120 |
| gagaaaggta | acttcagcca | gctttcaaag | gcaacaccta | caaaaggggt | gactgagaac | 180 |
| tcagacacag | acgacaagtg | atcattccggg | ccagattttt | gttgagagag | ttgtagtgtg | 240 |
| taattgattc | atttcataca | tttgatatgc | aagcctgtat | caagcttatc | gataccgtcg | 300 |
| acctcgaggg | ggggcccggg | acccaattcg | ccctatagtg | agtcgtatta | cgcgcgctca | 360 |
| ctggccgctg | ttttacaacg | tcgtgactgg | | | | 390 |

<210> 451

<211> 460

<212> DNA

<213> Pinus radiata

<400> 451

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gagtaggagg | cggcggcgga | ggcaagggaa | gcccgtacag | aggcgtcagg | atgagaaaat | 60 |
| ggggaaaatg | ggtttctgaa | gtgaggagc | cgaacaagcg | gtctcgcata | tggctcggct | 120 |
| cctattccac | tcccagggcc | gctgccaggg | cctatgatac | tgccgttttc | tacctcagag | 180 |
| gaccctccgc | gactctcaat | ttccccgagg | aagcacgtaa | ggagcagcag | agcgacctca | 240 |
| ggcttttcga | gctcggggag | ctctcaccgt | cctctattca | gcggagagcg | gccgaggctcg | 300 |
| gcgcggccgt | cgacctgcc | atgcaggcgg | gcccggttcc | tgctcagacc | ctgagggaaa | 360 |
| taaaccaaga | aatgatatg | aagaacgcct | tgagctcaaa | attgagcgag | ggcaataatt | 420 |
| tcaagatcga | agcaaaaaat | aatatgaggc | agcagggctt | | | 460 |

<210> 452

<211> 1116

<212> DNA

<213> Pinus radiata

<400> 452

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|------|
| gtagatttaa | atgctttttt | gaaatccggt | tactcgcaag | attatcaatc | gggactgtag | 60 |
| ccgaagcttt | gagaggttga | aattcagact | tttgctccga | actgttctgc | tgaacaaaaa | 120 |
| tccagtattg | agctaggttt | agaatcgggt | ttgctgggtca | tctgggagag | gcgatccatt | 180 |
| cagcttcgca | ggcccccgaa | gatggcgttc | gccggcacaa | cccagaagtg | caaggcatgt | 240 |
| gaaaagacgg | tctatttggg | tgatcaattg | acagctgata | attctgtttt | tcacaaatcc | 300 |
| tgtttccgct | gccatcactg | caatggaact | ttaaagctta | gcaactattc | gtcgtttgag | 360 |
| ggagttctat | attgcaaacc | tcattttgac | cagctgttta | agagaacagg | aagtttggat | 420 |
| aaaagttttg | aagccattcc | tagagcatca | agaaatgaca | agatgcatga | gaatgagaac | 480 |
| aggacaccta | gtaggggtatc | agcattgttt | tccggtagac | aggataaatg | tggtgcatgt | 540 |
| gggaagacag | tgtaccccat | tgagaagggt | gctgttgatg | gtacatcata | ccaccgacca | 600 |
| tgcttcaagt | gctgtcatgg | tggttggtgc | atcagcccct | caaattatgt | tgctcatgaa | 660 |
| ggcaggctat | attgtaggca | tcatagtctc | caacttttta | gggagaaaagg | taacttcagc | 720 |
| cagcttttcaa | aggcaacacc | tacaaaaggg | gtgactgaga | actcagacac | agacgacaag | 780 |
| tgatcattcg | ggccagattt | ttgttgagag | agttgtagt | tgtaattgat | tcatttcata | 840 |
| catttgatat | gcaagcctgt | acaatagcct | gtgactgtta | agggcattct | tttgtctccc | 900 |
| tggttgctatt | tgggtttccg | gtgtgttcat | tttcacttat | ttttgtgttt | tagctggaag | 960 |
| aatttgagag | ggtagaattg | tgtcatcgct | atggcttggt | catgactcat | gagccagcag | 1020 |
| ttgagacttt | tatttattag | ttatagtact | atatctagtc | gagttctcaa | taaaagatag | 1080 |
| tgttatgctg | ttgggcagca | aaaaaaaaaa | aaaaaa | | | 1116 |

<210> 453

<211> 439

<212> DNA

<213> Pinus radiata

<400> 453

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ccggttccta | gttcgaatcc | ttgccctaac | gcagtcgccg | gttttaagac | tcaatcttta | 60 |
| gtgactcccc | cgcaacatgg | ttaagccctt | gccaaaacag | agcagcccga | gcggatcgga | 120 |
| aaactgccaa | ataaagtcgc | ggcagttcaa | aggaatccga | ctgagaaaat | gggggaaatg | 180 |
| ggtgtcgga | attagaatgc | cgaattccag | ggccaaaatc | tggctgggct | cctacgactc | 240 |
| cccggaaaaa | gctgcccgcg | cctacgactt | tgcgttgtag | tgtctaagag | ggtcgaaggc | 300 |
| cacattcaat | tttcccgact | ccccgccgga | aattccatgc | gcctctgacc | tgtcgccgcc | 360 |
| gcaaattcaa | gccgcccgcg | ccaggttcgc | tacagaagat | ttccggctgc | cgtcggaaga | 420 |
| ggacgcggcg | tcctcctct | | | | | 439 |

<210> 454

<211> 481

<212> DNA

$$\frac{1}{\Gamma(\alpha)} \int_0^t (t-\tau)^{\alpha-1} \frac{d}{d\tau} \left(\frac{1}{\Gamma(\beta)} \int_0^\tau (\tau-\eta)^{\beta-1} \frac{d}{d\eta} f(\eta) d\eta \right) d\tau = \frac{1}{\Gamma(\alpha+\beta)} \int_0^t (t-\eta)^{\alpha+\beta-1} \frac{d}{d\eta} f(\eta) d\eta$$

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gcaattccta | gtctcatttc | agtgattcac | tcactgaaat | tattgttaga | atcactgttt | 60 |
| tggccccaga | gcttctgcgt | cgccaaatat | ggagatacgc | ctccagcagg | aaaacgacca | 120 |
| ggacattgct | cgcgcacacg | aagatcgcgt | gtcccgccaa | tttaaaggag | tccgaccgcg | 180 |
| taaatggggg | atatgggtat | cggaatccg | gatgccgaga | tctcgacaga | aaatatggct | 240 |
| gggctcgtac | aaaaagcccg | agcaggccgc | ccgcgcctac | gacgccgcag | tgtattgtct | 300 |
| gagagggctg | aacgccaaagt | tcaatttccc | caattctgtg | ccgacattc | cgtctgcgtc | 360 |
| ttctctttcc | cgcgcagcaga | ttcaactcgc | tgccgccaaa | tatgcgttgg | atcagtcccc | 420 |
| ttcaagcccc | ccgtctctga | acaataataa | agaggaaccc | gcgtcaccgt | cgcagtcgtc | 480 |
| t | | | | | | 481 |

<213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| ctcccactct | catttcactc | tgccgagtc | attactctcc | ctatcgtcga | accacgtctt | 60 |
| tctcatcgac | caacaatgac | tcagcagaca | acctcaccaa | cagttagtcc | cgccgcactt | 120 |
| gctcttccca | cttctgcttc | atccacatct | gcaaagtctg | cagctgttcc | agtaccagcc | 180 |
| caagccaacc | ctcgcaaacg | tctctgttcg | gatctctccg | cagaggagaa | gcgagaggct | 240 |
| cgtgctcadc | ggaacagaat | cgcagctcag | aactctcgtg | acaaacgcaa | acagcagttc | 300 |
| actagtctcg | aacaacgagt | catcgacctc | gagaacgaga | accgcccaatt | acgagacgct | 360 |
| ctcgccactt | cgcagccgaa | cc | | | | 382 |

<213> Pinus radiata

```
aacttctgac tatttttgaa gctgtatatg tacataaagg gatcgtaaat gcagcgaaag      60
tgcttaatat gacccccctcg gcaatcagtc agtctattca gaaactgcgc gttatatgcc      120
ctgacccatt gtttattcgc aaaggccagg gtgtcactcc taccgcattt gcgatgcac      180
tacatgagta tatcagtcag g                                     201
```

<213> Pinus radiata

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gctctgggga | cttggtgttt | tctccaatc | ctaaaactaa | atgttattat | ctgaaatagg | 60 |
| gaaacaagat | tacagcagca | gcgaaggaca | aatgaaaggg | ccgcagggga | ttagcaatgc | 120 |
| tcaaaacact | tgtaccaa | tccgaatgcc | aacatcagag | aacttgattc | ccattcgcct | 180 |
| tgatattgaa | attgatggac | tacgtttgaa | ggatgcattt | acgtggaatg | taaatgatcc | 240 |
| agattcagag | attcattttat | ttgcaaggag | aaccatcaaa | gatttgaaat | atccgggaag | 300 |
| tttcataaga | ccagtagtac | aatctattca | agcacagtta | gcagagtttc | ggtcatttga | 360 |
| agggcaggaa | atgaacacag | gacaaaaagt | gctccccctt | aagcttcctt | aaaatttagt | 420 |
| atatatatcc | tcctt | | | | | 435 |

<213> Pinus radiata

<400> 458
aaagctagat aacgtttctgt tttaaatata gcgcgggccga ggcgggcccgt cagtcaacgg 60
ggtttctagt gcggctcgtct atatttttcta ctctcctttc cactctgcaa aatcagacct 120
tcatccattc cccacggcat tagattcaat ccattctatt aggctccttt aagcgagggtc 180
gcggggttcga acccgatcga atgatgcgaa ttggataccg tttgggtgtag aattctgata 240
gatttcgtgc gatggagggt tcacagaacg gcagcagcaa tgcaccgccc cctttcttaa 300
cgaagacgta tgatatggtg gacgacccgg ccacgaatgc tatggtgtca tggagccccg 360
gaagcaacag ttttattgtg tggaaatcca ctgaattctc ccgtgttctc ctccccactt 420
actttaagca cagcaacttc tccagcttcg tcaggcagct gaatacatat ggttttcaca 480
aaattgatcc ggaacgggtg gaatttgcaa atgaggggtt tctgcgagggt cataggcatt 540
tggtgaaaaa cattcacagg cgcaagcctg ttcatagccca cagtcagcag aaaggagaga 600
gtttgtctgg aggatcatgt gtggaaatca aacaacttga agatgagact gaga 654

<210> 459

<211> 675

<212> DNA

<213> Pinus radiata

<400> 459
aattgaatcg gccatgggtt tgtatgaatt gttacatgta cagcagattc agcaaataca 60
gcagcagcag tttcaattgc aacaacaaca aatagcagca gcggcttcaa tccaccatat 120
gggtcgaaac cctctgggtc ccagagatca gcccatgaaa cttcatggca gcagcctatc 180
aaagccggct aagctttaca gaggcgtgag gcagcgccac tggggtaaat gggttgcaga 240
gatcaggtta cccagaaaca gaaccagggt atggctgggg acttttgata ctgcagagga 300
agcggccatg gcttatgaca aggctgctta caggctgagg ggtgactatg ccaggctcaa 360
ttttcctcac cttaaacacc atttggaagc aaattccttc gccccctgga ctggtaatc 420
tgtgtgtcca tgcgtctgtg atgccaagct acaagcaatt tgccaaagct tgaaacaacc 480
tttggaagc atgtctaaga ccgaagaatc agaagaatc tcatgtgcat atgagaattc 540
gggctctctt gggctcgggtc gggatgaaga tgcgaagaag aatgatgttg tctctgtcaa 600
gtccgagact tgtgattctg atagtagtga tgattccacc attacagcgt tgaattcatc 660
tggggatcag aatcc 675

<210> 460

<211> 1014

<212> DNA

<213> Pinus radiata

<400> 460
cccggataga agcccccggt cggagaacga atccggcggc ggtcacatgg gcggcagcgc 60
atttctctgt gaaagagcag gatcgggtcc tgcccatagc caacgtgggg cgcataatga 120
agaaggccct gcccgccaat ggcaagggtt cgaaggatgc caaagaaact gtgcaggagt 180
gcgtctctga gtttatcagt ttcatcaccg gcgaggcctc cgacaagtgc caacgggaaa 240
agagaaagac gatcaacggc gacgatctgc tgtgggcat gacaaccctg gggtttgagg 300
actatgttga gcccccaag atctatctcc acaagtacag agaaatggag ggcgagaagg 360
tctctatggc caaacaagga gaccogactc cttccaagga aggttaacaac gccattaatg 420
gctcctcaat tgaaaaccct aatgctaag cctacagtgg tttgaacccc ggcggttata 480
atagggtaca gtcgcagctc ctgccacata tgcagcaggc tgcctatggg caaccgccag 540
gtggaatggg ctatggccac caccggccaca ttatgggggc ttacaatatg accgccccaa 600
atagcagtg tggaaatagc agtggctcagc aacagcagca agccccaga ggccaatggt 660
agaaatattt actttttctt ttctgttttt ctaattttta cgggtcatgt ggggacagct 720
gggtgccttag ttaaagtaga atggcatcac caaccaacc aattctttac tagtttttg 780
ctgaaatgat tccatctctt gcatattaaa gaagccccctc aagctcagga ggggactttg 840
aagtgtctaa gaagtctctc aagctcagaa cactggaaaa atgggagggt tggtgttact 900
aactgttctg taaaaattta ccagaaatgt tgttcaaact gtctgtattt agtaggtact 960
gaatcttagt gaatctgctt ctgtatatct attttcgctc catttggaag atag 1014

<210> 461
 <211> 301
 <212> DNA
 <213> Pinus radiata

<400> 461
 ggctgcacca ctgtagtaga aacttttagcc aagtggcagg agctgaacag ccaggtggaa 60
 agctcaaaaag atggcgcgaa aagactcagg aaagcccctg ccaaagggtc aaagaaaggt 120
 tgcataaaaag gaaaggggtg tcttgataat ggacgttgca actatagagg agtcaggcag 180
 agaacgtggg gaaaatgggt tgcggaaatc agagaaccga atcgtggaag tgcactgtgg 240
 ttgggtacgt tctcttcagc ggaggaggca gcacgtgctt atgatcaggc tgcgagggtt 300
 a 301

<210> 462
 <211> 384
 <212> DNA
 <213> Pinus radiata

<400> 462
 gttcagaggg taagtgaaga ttcgaaaaac aatggagatt gtggggaagg ccaaggaaga 60
 tgtttctactg ccaaaagcaa ctatgaccaa gatcatcaag gagatgttac cagcacatgt 120
 tctgtgaacc agagatgctc aggatcttct agttgaatgc tgtgtagagt tcatcaattt 180
 aatctcgtca gagtccaatg acatatgcta caaagaggag aaaagaacta ttgcaccaga 240
 acatgttctg gaatctctaa agattcttgg ctttgggagc tatattaggg aggttaaagc 300
 tgcttatgag caacacagga ttgagaattg ggattgtcca agagcaggaa ctagatggag 360
 taaaaacaga ttggaaatga caga 384

<210> 463
 <211> 484
 <212> DNA
 <213> Pinus radiata

<400> 463
 gaatatcaat ggggttgctg ggggagttgc caaagagaaa aaggtaaatt ttccatgggtg 60
 tgcattggaa aagcaagtag ggacatcatc ttttgatcca aatttggtt ctagcaaaca 120
 agcaatggat agtctaata tgcagcaact gcctacctc ctccaatatt gcaaagatct 180
 agaagagggc agacagtcac ggtttatgca caagaaggaa gctacctgga ggctcagtcg 240
 gcttgagcag cagcttgaat ctgagaaagc tcgcaagcgg agagaaaaaa ttgaagaggt 300
 aggttcaaaa atacgtgccc tcagggagga agaaataaca tatcttgaca aactggaaac 360
 tgagtgcagg gagcagcttt ctagtctcca aagggatgcg gaaatgaagg aggcataagat 420
 gatggaattg tgggctacca aacatctgca gttgacaaaa ttcgttgaca gtgctttatc 480
 agtt 484

<210> 464
 <211> 1434
 <212> DNA
 <213> Pinus radiata

<400> 464
 atggtttttag gtttttaaat tagagcagga cgtgcctact tttgcttcat ttatgcatat 60
 gtcttttgtt gtcactattc gtctttaatc cccactttgc ctgcctggag agaagaggag 120
 aggaccctgc cctgctattt ggccttgtga gcgattcagg agaaatgggg tggcaacagc 180
 agcaaggagg agagaatgaa aattgaataa aacgaaggat ctgaatcccc cttgcgcgca 240
 agcaatggct cgagagacca attcttttgc cctactgggc ggagatgacg accaaggcga 300
 tgatgatctc atggcactca tcaacagcgc ggccaccctc aagccagaaa agaagcccaa 360
 gactactgcc aagaaaaacg gccagcagca gccgcgcgcc cccagctctc agcctgctaa 420
 acttccttcc aaacccttcc cgcccgccga agccgtgagg gcggatagag gaagaggaag 480

cctacaataa cccatgatac actgagacta cttttttt

578

<210> 468

<211> 432

<212> DNA

<213> Pinus radiata

<400> 468

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gcgctcctta | cggttctacg | catgggtatc | gagcttgcca | cgcgccact | ttcttgcgag | 60 |
| ctcattctgt | tcggcctcag | aagggctctg | ccggccaagc | ttgagctttt | gtatggctga | 120 |
| agctgttgcc | atgtttaacg | tgataatgag | aaaaatgctc | agaccaagtg | tcaggtagta | 180 |
| cgagctcgtg | ccgaattcgg | cacgagctgg | gatacagtag | aagtgccaa | agatgtaagg | 240 |
| agaagtggga | aaacatcaac | aagtatttca | ggaaggccaa | agagagtaac | aagaaacgtc | 300 |
| ctgagaatgc | caagacctgc | ccttactttc | accagttgga | tgctttgtac | aagaagagaa | 360 |
| atctgggcaa | caggcacaac | aaaattatgg | tcctgagtat | tttctctgtt | gcttccactg | 420 |
| ggctgttcat | gc | | | | | 432 |

<210> 469

<211> 657

<212> DNA

<213> Pinus radiata

<400> 469

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| gtttttccgc | aggaagtttt | gatttgagta | ggaaatcctt | tggcctcctg | gagctttgat | 60 |
| ttgctcagga | aaccctagcc | cttcgggtcc | tgaagctttg | cttttcgtag | gaaacccttt | 120 |
| ggcacccgga | ggcgatggct | cccagcaaca | acagaagaga | cgacaatgga | gcacgaggag | 180 |
| ttcacttcag | gggctgcagg | aagaggccct | ggggctcgata | cgcgccggag | attagggatc | 240 |
| catggaaaaa | agttcgtctt | tggctcggca | cctttgacac | ggccgaggaa | gccgccggg | 300 |
| cttatgacac | tgccgctatc | tcctcagag | gtccgaaggc | gaaaacgaat | tttgcatact | 360 |
| cctcgccgtc | ctctcatca | tctctgcaca | ataatcagag | cagtagccaa | aacagcagca | 420 |
| cgggtggagtc | ctggccctct | gcggccctg | tgactcgatc | cggagacctc | gagcttccc | 480 |
| cttcttttct | ccctcgcttc | ggagtttcca | ccgggcccgc | ggttttaaat | ggtggaaacc | 540 |
| cccgggtccg | gcgcggcg | agtctttcgg | agaaaaacag | cggcagaaaa | gctgaaggcg | 600 |
| ccgaggcgcg | aaccacccta | agcgattctg | attcttcttc | ttctgcggtt | ctagacg | 657 |

<210> 470

<211> 581

<212> DNA

<213> Pinus radiata

<400> 470

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| gtccagcaac | agcagcagca | gcatcagcag | catcagcaac | aattactgca | gcatcaacag | 60 |
| cagcagcaga | tggcagatgc | tgctgctgca | atctatgcct | catctgtaaa | gaggcaggg | 120 |
| aatgggacaa | tgatggggca | gggtaatgga | acaatgatgg | ggcagggtaa | cggggcaatg | 180 |
| atagggcagg | gtaatggggc | aatgataggg | caaggtaatg | gggccattga | tgggatcacc | 240 |
| ccttgaggga | ggacttggtc | tttcccctag | aatgggtgga | gggattggga | atggcctaca | 300 |
| aggaggattg | gggggtgggt | tggcggtctc | cggagctact | gcgcttacca | ttggagcagc | 360 |
| atctcccgcc | aaccagcttt | cttctgatgg | tatgggcaac | agccatggag | acaactcaac | 420 |
| agtatcgcca | attccttatg | ggttggacgt | aagtgtgaaga | ggcaggaaaa | gaggtggacc | 480 |
| ggtggagaaa | gtagttgaaa | gaaggcagag | acgtatgata | aagaatagag | aatcggcagc | 540 |
| aaggtcgcga | gctagaaaac | aggcatatac | cgtgaattgg | a | | 581 |

<210> 471

<211> 451

<212> DNA

<213> Pinus radiata

<400> 471
 ccaaaatgga gattgagaaa caagaggagg atcctctgga gattttctgc ctccaccccc 60
 gacaactaaa tgctcagagg agctgcagaa taagatcacc aaatatattg ctttgaaaag 120
 tgctggaaga agcttcaaca aagaactacg caattcaaag ggatatacgt atccagattt 180
 cttgcagcgt gctgtgaagt accaggggat agatcaaatt ggtagctgct tcaaaaagga 240
 aatatttgat ccacatggat atgatccgag tgactattac gatgctttag ctttgaggct 300
 caagagagaa tttgaaagaa gagaacaaga gaagcaaaaag aatcaaaggg tagattttgt 360
 tcatggagct gtacaaacta catcggtaca gtcagtatca aagccaattg tgcagggtcat 420
 ggggtggtcaa aagggtgcctg ttgttgggggt a 451

<210> 472
 <211> 1286
 <212> DNA
 <213> Pinus radiata

<400> 472
 gacgttcctc tttactttta caacttgtac cgttgcccat gaaaacagcc ggggagatct 60
 gaaattttcc actaaagttt gtttttttgc tgggtctcgc ttgggcctcc ataggaccta 120
 gctggacacc tcgaatctcc tccggctcatt ttttgttttg acagggccgg tttggtgatt 180
 aggggtttcag ataacaggag gacaagtgtt cgaattcgag agaagccaga atgagctctc 240
 cgcagagcaa taagtggctg tcatatttcg acgagccatt gttggatgat gtaggcgtgg 300
 ggcagccggc caatccattc ttctgggtgcg gtcagggcat aaatgatcag cccgacgtaa 360
 gtgtagaaat tgatggcccc aataaggaca tggacgagca agataaatta tgtcctagaa 420
 agaggtcacg ggaagaatct agtgggtggac ctgggtcaaa agcttgccgt gagaagatgc 480
 ggagggacag acttaatgat agattcatgg agctaagctc tgtgttagaa ccgggtaggc 540
 ctcccaagac ggcagacaaa gccacaattt tgtctgatgc tgcacgtgtt atgaccacgc 600
 tacgaactga ggcgcagaac ctgaaagctg agaatgaacg actgcaggaa gccattaaag 660
 atctgaaggc agagaaaaat gaacttcgtg atgaaaagct gagaatgaaa gcagaaaagg 720
 aaaaattgga ccaacaagta aaagcaatgg ctttgccctac aggccttggtg ccgcatcctg 780
 cagcatttca tgccggtgct gcttttgtag cccaaagtca agcagcagca aacaaaacta 840
 tgccctgttc aggatatcct ggaatggcaa tgtggcaatg gatgcctcca gctgtggttg 900
 atacttccca ggatcacgtg ctaaggcctc ctgttgcttg aagcaggctc ttattttata 960
 ttccaaactg gtgctactat ttctttggcc ctcgaaacga ccttagtttc tttggtatcc 1020
 aagttttaga tgctaggtgc cattgcatca gttcaatatt ctaatttttt ttatattgtg 1080
 ccatagagat aattgaggat aattacaatt catcctgatg atgaaatgga ttaactgctg 1140
 tattatgaaa aattacactg gagctttgca gaacaattat taatcctttg ttcatggtca 1200
 tgacatgtct tgaactggag atcgctcgaa cacttacagt tgggtataaac atcttgacat 1260
 ttcgttcaaa aaaaaaaaaa aaaaaa 1286

<210> 473
 <211> 1358
 <212> DNA
 <213> Pinus radiata

<400> 473
 caaattttca aaaccccagc ccccccagtc aaagtgatgt gaagggacaa atcccttgaa 60
 caaattttca aatgctattt atatatgaaa tgacgggtgga gcgagagcca cgggaagtag 120
 cgggtagaag gcaggggtat aggccttttg ggctgtgtct gtcgcttcga gacgacttct 180
 cattggagcg aaacgcctct cggcatttgg gtcagtgaac caacgaacgc tggcttcaag 240
 gttttcgttt tatctttctt atttcacttc cttggattta gtttcctttc gatcctgaaa 300
 ccgattcatt gtgtgagttt tccgcgaatt aactgatcag gggttcggcc tctgtatcaa 360
 atgttttggg gagcttttct ggtttgaaat gacgaggccc acatggcgaa atcactgttt 420
 tccctaagct gaatgactac aacccatctt cagggcatct ataactgtaa atttcgatac 480
 ctgggtcgat ccgtgtgcga ccctcgctcg agaaaagaga gcacagcagc attggtaggt 540
 ctcggtttca atacacagct ggggaagaat ttcaaaataa aacgcaagcc tcgggttttg 600
 gctccagagg cacacacgac aataatacat cataggagta gcggcgtagg tcgtgtgttc 660
 aaaccccatc caggggaaat accgtgaagc tcgcttgctg caagttcgac tgacatcgac 720

1. Introduction

<400> 474

<210> 475
<211> 337
<212> DNA
<213> Pinus radiata

<400> 475

```
<210> 476
<211> 362
<212> DNA
<213> Pinus radiata
```

<400> 476

```
<210> 477
<211> 612
```

<212> DNA

<213> Pinus radiata

<400> 477

| | | | | | | |
|------------|------------|-------------|-------------|-------------|------------|-----|
| agaacatggc | caagcacact | gtctgcgct | cttttctcaa | cgaaggagac | ttcatttgcc | 60 |
| ctccttacga | agatggaatt | ggctctagaat | ggctgtcggg | cttcgtggag | gattcctttg | 120 |
| cagctacagg | aagttcgaat | tctgggttcct | tggctgactt | gtctaaggac | aaaatcgacg | 180 |
| acaacaggga | gaagaagaag | cagaacccaa | ccgatgaagc | gataatccct | gaaataccgc | 240 |
| ctataaagga | gactcccagg | tcacagaggg | cgggtgcccgg | gcgggctcgc | agcaagcggc | 300 |
| gcagaagctc | aggagcccca | attcgcgggt | ggctctactt | tgaagattac | gcattgcaga | 360 |
| atgagggcgg | catgaaaact | gtaacaggag | cggacgctat | aaatcattac | cagtccctcg | 420 |
| cgccccagca | gcagccaagg | cgctgcactc | attgtctcag | ccagcgaacc | ccgcagtggc | 480 |
| gattgggccc | gttgggtccc | aagacctgt | gcaatgcctg | cgggtgtgagg | ttcaagtctg | 540 |
| gcaggctctt | ccccgaatac | aggcctgcca | agagcccccac | tttcattcga | tacattcatt | 600 |
| caaattccca | ta | | | | | 612 |

<210> 478

<211> 680

<212> DNA

<213> Pinus radiata

<400> 478

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|-----|
| tggaaatgct | gccaggcgct | ctcatgatgt | gcttttgaag | ttagaaaagt | tgagttcaca | 60 |
| gacaacgctt | gaatcactac | aaagactcat | cgttcaaaaag | aaatgtctcc | tttttgga | 120 |
| aaaggtagga | ataagaattg | acggaaagaa | gaccgcaaat | acagaaaaag | tgaatgaacg | 180 |
| gaacacaata | ccaaggatca | tttttggggc | attaacattt | acaagaaacc | gccctcatgc | 240 |
| attatctaaa | aatggaagca | tagccgacac | aagaagaaat | atatgtgggtg | cacctcaaga | 300 |
| ggatggaacc | atttgtacag | ctatccctct | taaaagcaga | aaacgggtgc | ctgatcacia | 360 |
| gggacaaaaa | ggccagaaaag | agaaaaattt | atcaaaaatt | aacatcagtg | caaacgttga | 420 |
| atcaaggaac | caaggagttg | gggaacatga | aaatgaatat | agatattgtg | gagtccttct | 480 |
| taaagatgga | tcaacatgca | agattatacc | cgataagggc | agaaagcggg | gtaatatcca | 540 |
| caaggggatg | cgcattcctg | gccaggcaaa | ataagcattt | ttatctggat | cagaaagtgt | 600 |
| taatgtttcca | gaaatcagat | gttagagtgc | agaagagaaa | ttacctactc | ctaaggaatg | 660 |
| taatcatact | ctaggttggc | | | | | 680 |

<210> 479

<211> 544

<212> DNA

<213> Pinus radiata

<400> 479

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gtttttatatt | ttaagtggaa | aatagcttgg | ctggctaggg | tttcagtata | taaaaccctg | 60 |
| gttggtttgag | gggcgtaata | cactcagttg | atgttctagc | gcatagatat | atacacagac | 120 |
| tgtgagcttt | attctctgtg | aacattctgg | gcaatgctac | tgagtctcag | accgcggaat | 180 |
| taatacagat | ggcgtgaag | gagaaactcc | tatcataaat | atataaaaag | gatttgtttt | 240 |
| tgacagtgga | acagagccag | ttcaaagcag | gcggcaatgg | caacttccaa | tccgtttgat | 300 |
| ctgctcggcg | atgacgacaa | tggcgatgtc | tcgcagctcg | tcttcgtccc | tcaggagaag | 360 |
| ccgactgtta | aaaaggcctc | tcagcctgct | caaacggcaa | cggccaagct | cccgtccaaa | 420 |
| cccctacctc | cggctcaggc | tgtgagagag | tcgagaaatg | gagtgggcag | aggaggtcga | 480 |
| ggcgggagag | gaggagaccg | caatcaagat | gtgggctatt | agcaatcgtg | gccgtggcag | 540 |
| cttc | | | | | | 544 |

<210> 480

<211> 971

<212> DNA

<213> Pinus radiata

<400> 480
ggaagttcta ggtcacacac cggagactct tgagaagtct tcagacaagg tgtggagagg 60
taaaggagtg cctggtgcgg gacaggaacg cctctgcaag atgaataggg agaagcttat 120
gaagatggct ggtgctgttc gacttggtgg gaaggggtacc atgctgcagaa agaagaagac 180
gattcacagg acaacaacta cagatgacaa gaaacttcaa agtactttga aaaggatagg 240
agtgaatgca atacctgcta ttgaagaggt caatattttc ctggaggatt ctgttattca 300
ttttcaaaat ccaaaagtcc aagcttcaat tgctgctaata acgtgggtgg tcagtggatc 360
tccacaaaca aagagacttc aagatcttct tccagggatt atcaatcaac ttggggccaga 420
cagttttgcc aacctaagga agcttgacac gcaatttcag aaagaagttc ctcatcctgc 480
tggtgaagaa gatgacgatg atgtgccaga acttggtgaa ggagagacat ttgaggaagc 540
agctaagcaa gaatccgctg cctaactgag ttgagctttt ataaacgatt gacagttaag 600
ggagcactca ataattgtgt ttgaattgta tattagttat aagtatattg tattttactg 660
ttaaagtaaa actatcaggg gcactctgtt attatgatac agttcaaatt ttgtttttcc 720
tttcccttg tctcataaat ttttcttcat gcaagtggat tcctgtgaat gcaagattgg 780
tttgaattat gcaaattata gatttgtttt tgacttcgat tctgttatgg taaggctttt 840
tccccctcc agtgtatggt taaaatgttg tagtacaac aatgtcccca attagctgct 900
tcttgcttgg aattgtgcat gcgttgacc ttttggtatt aaaatttttg cttgtctata 960
aaaaaaaaa a 971

<210> 481
<211> 710
<212> DNA
<213> Pinus radiata

<400> 481
cttgagactg cctgctgaag tctttgatcg ctgtaagtct gaggttgaga ttaatcaggg 60
gcttggcaga tttggtatca ggtagaagct agagggctct tagtaatcga ctctgcgcag 120
tcccagagag aaatgaaaat gaatctcgac cttttgtaga agagtttctt atatctgacc 180
ccggatcgag gctatagcga atgaggaaaa tgagcggccc gagttcaata gcctgtttgc 240
cagagttgat agttccaagg atccgttggc gatgatttct attctccccg cgtagtcggg 300
gaacttatca ttgatcccat ggagaacaaa acagatcaaa tagtagccgg gcagaaacga 360
cgcagataga aactgcagat gaccacactg gcaacgcatt gcttcaagggt ggacgatatt 420
gcttgccaga cttttcctgt ttcattcctc gaagggtgaat gaacaatacc ctcaatcttg 480
tategcattg ttgatgttat gtagaagtac caagcataac catgccacac caacaccagc 540
accaggaacg ttttccttca caagagggaa ttagctggaa gagagatgat gaactccac 600
agccacagaa tccaccaaaa aagaaacgtt atagaggggt aaggcaaaga ccgtggggaa 660
aatgggcccgc agagattcgt gatcctaaga aggcagctcg agtatgggtg 710

<210> 482
<211> 1240
<212> DNA
<213> Pinus radiata

<400> 482
attcccaggc ctggttaagg agggcggggg ttacatcagt gcaggtgggt ttgatagaag 60
cggcggagac ggcttttggg agaggatatt agctggccgc tgtaaaaagt tagtgggtgg 120
tatggcttat gctgaaaatt tgaggaattt tggttttggg gccataatg gtggttctaa 180
tcagagcaat agcagtaatg ggggtgtaga tggctattct tcgatgtcca atgaggagg 240
gcttggttatg ggacagattg gcggtccaca tggctaccgc aattcttcac caagtgtca 300
agatgcgcta tacgaggagc tgtggcatgc ctgtgctgga cctcttggtt cgctgccag 360
gatcggggag cgggtgtttt atttccaca aggtcatatg gagcaggttg aagcatccac 420
aaaccagggg gctgatcagc acatgccatt gtttaacctg ccctataaga tcttttgccg 480
cgtaaatcaat gttcaactga aggtgaacc tgatacagat gaagtgtttt ctcaaattac 540
cttgctccca gaggcagagc aggatgagtc gtctgttgag aaggagcctc taaccctact 600
gcctccaaag cttttagtat actctttctg taagaccctc actgcatcag ataccagtac 660
ccatggaggg ttttctgttc tcaggagaca tgctgatgaa tgtcttccac ctctggatat 720
gagtcagcaa cctccatctc aagatctggg ggccaaggac ttgcatggag ttgaatggcg 780

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| gttccgacat | atcttttcg | gtcagccaag | gaggcatttg | cttaccactg | gctggagtgt | 840 |
| ctttgttagt | tctaaaagac | ttgtggcagg | agatgcattt | atctttttga | ggggtgaaaa | 900 |
| tggtgaactg | cgtgtgggag | ttaggcgtgc | catgcgccag | caaaacaatg | ttccatcatc | 960 |
| tgttatatcc | agtcacagca | tgcattcttg | tgctattgca | actgcatcac | atgcagttac | 1020 |
| aacgaagacc | atgttttagt | tctattataa | accaaggaca | agcccatcag | agttcataat | 1080 |
| tccttatgat | caatatatgg | agtcaatgaa | aatcaatttc | tcggttgga | tgagattcaa | 1140 |
| gatgaagttt | gagggggaag | aagtcccaga | gcaaagattt | actggaacca | ttgttggaat | 1200 |
| aagtgatgct | gatcctgtga | actggccgaa | ttcaaagtgg | | | 1240 |

<210> 483
 <211> 516
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 483 | | | | | | |
| ttcagatcta | taaatcaatg | tctgcattaa | tgacaaacta | agttgaaatt | cccaaattgtt | 60 |
| gggtggttact | atttaggatc | ggacattagg | cgttgtggtc | tcgggttcga | ttcacaaggc | 120 |
| atttctgttt | cgaattttca | aagcaacacg | tatcagaaaa | ctgattctat | actgtgatga | 180 |
| cgcaggctac | taactacaca | gcaggtagca | tcagagacga | tcaagaggag | caatgtgtga | 240 |
| ggaggggacc | ttggactgtt | gatgaggaca | tgagccttat | tcgatgcgta | accacccggg | 300 |
| gtgaaggctc | atggaacaca | gtagccaaat | ttgcagggtc | aaagagaaca | ggaaagagct | 360 |
| gcagattgag | atggcttaat | tatcttcggc | ccgatgttaa | acgtggaaac | ataacgccgg | 420 |
| aagagcagct | attaatcctt | gaactccacc | gtctctgggg | taacagatgg | tccaagattg | 480 |
| cacggcaact | cccaggcagg | actgacaacg | aatca | | | 516 |

<210> 484
 <211> 328
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 484 | | | | | | |
| ggggaatgat | tcctggccga | ggccattcga | gcgccataca | cattgcggcg | gactgcggga | 60 |
| agtattgttt | tcagtaattc | ccttaattgg | gtcccagaat | acgttctcag | atccgaaaac | 120 |
| ggttcagtc | atcggagggt | acagcgattc | gaaggcctga | aaaccctaaa | aatacctatc | 180 |
| cccctttgtc | tttgaatggc | ggagaactat | ggcagcccg | atagcagccc | ccggtcggag | 240 |
| aacgaatccg | gcggcggtca | catgggcggc | agcgatttct | ctgtgaaaga | gcaggatcgg | 300 |
| ttcctgccta | tagccaacgt | ggggcgca | | | | 328 |

<210> 485
 <211> 919
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 485 | | | | | | |
| gtcatccata | ttttcttttt | cagtctgcaa | tacaaattgt | tattcgagat | acgattgatc | 60 |
| atgcttgaag | gctatgccta | tgcttgccga | aacataccgt | gacagctttg | agacgacttc | 120 |
| gggaggtagc | agcgtggatc | tggtaggaat | ggctctacca | ggtttgccc | ctaatttgtc | 180 |
| ttctgcttca | gtttcagctt | cagcgtcggg | agattctgcc | aagaaaaata | ggaaacccta | 240 |
| taccatcacc | aagtccagag | agagctggtc | tgagcaagag | cacgataaat | ttctcgaagc | 300 |
| ccttcaacta | tttgatcgtg | attggaaaaa | gattgaagct | tttgtaggat | caaagactgt | 360 |
| catacagatt | cggagtcatg | cacaaaagta | cttcttgaag | gtccaaaaga | atggcacaag | 420 |
| agaacatgta | ccacctctc | gtccaaaacg | caaagcatct | catccatacc | cacagaaggc | 480 |
| ctcaaaaaat | gttctgtgt | cacagcaagt | atcaactgct | tttccaactg | ctgctactca | 540 |
| actagattct | ggatattatc | caagggcaga | gtcgtcttcc | atactacca | aatctggctc | 600 |
| gtcatgccc | actgtttctt | cctgggttca | tcataccata | ccatcaatag | atgcttcgtt | 660 |
| tgtggaaaaa | gatgatgggt | ggcctccagg | cattgaaaca | gggaataatt | gcagtagtgg | 720 |
| tagcactgag | agttctcctc | ctacgtggcc | accctgttct | gaaatccctg | agaaagtcaa | 780 |

| | | | | | | | | | | | | |
|---------|-------|---------|-------|-------|-------|--------|------|---------|------|-------|-------|-----|
| accagat | tttt | tcacaag | ttt | ataag | ttcat | tggcag | tgtc | tttgacc | ccga | gcaca | actga | 840 |
| tcact | tgaag | aagct | taagg | aatgg | atcca | attgat | cctg | aaact | gtgt | gtacc | catga | 900 |
| ggaac | ctttc | cacaac | ttg | | | | | | | | | 919 |

<210> 486
 <211> 359
 <212> DNA
 <213> Pinus radiata

| | | | | | | | | | | | | | |
|-----------|--------|-------|--------|--------|--------|--------|---------|--------|--------|-------|-------|-------|-----|
| <400> 486 | | | | | | | | | | | | | |
| tctgt | aagt | g | cttgag | ggct | tcttg | tatcg | atgagg | ccat | taacg | atggg | aagat | ctttt | 60 |
| agt | tgt | tga | g | gctgt | tcaaa | agata | aatggc | cacgag | cgtc | ttaat | cgtgg | atctt | 120 |
| gctg | aggag | g | ataca | atttt | gag | tgaac | at | caaaa | actc | atgg | agt | tgg | 180 |
| tctct | tccca | agaa | gcagg | tctaaa | acga | tctgg | gaaga | gttgc | agatt | acgtt | gggtt | 240 | |
| aact | atcttc | gttc | agatat | caag | catgga | aacatt | ttctc | cggaa | gaaga | ggaac | tcctc | 300 | |
| atcag | attac | atcgt | ctcct | tggc | aatcgt | tgg | tcgttga | tagc | aggacg | actt | ccagg | 359 | |

<210> 487
 <211> 438
 <212> DNA
 <213> Pinus radiata

| | | | | | | | | | | | | |
|-----------|-------|--------|--------|-------|--------|-------|--------|-------|--------|--------|---------|-----|
| <400> 487 | | | | | | | | | | | | |
| gtagg | gtttt | aagga | agaaa | gacga | tccaa | gcagt | gggtt | tttat | cgagc | tccc | acgcag | 60 |
| tttga | agggt | gtcgc | agcag | aaga | agatcg | gattc | ggttca | tcctc | atcac | aaaga | aatata | 120 |
| ccatg | ggggg | cattac | cccat | gtaaa | agaaa | agta | agagat | ggatc | gggat | aagct | tatga | 180 |
| agatg | ggctg | tgcag | ttcgt | actgg | tggaa | agggt | acagt | acgc | agaaag | aagaa | agcag | 240 |
| ttcac | agagc | caca | acaaca | gatga | caaaa | ggctc | caaag | tacct | tgaag | agg | ttaggag | 300 |
| tgaat | actat | tcctg | ctatt | gaaga | agtaa | atatt | tttcaa | ggatg | agatg | gtcatt | catt | 360 |
| ttata | aaacc | aaaag | ttcaa | gcctc | tatta | atgcc | aatac | atggg | tgggtc | agtgg | atctc | 420 |
| cccag | acaaa | aaatt | ttac | | | | | | | | | 438 |

<210> 488
 <211> 478
 <212> DNA
 <213> Pinus radiata

| | | | | | | | | | | | | |
|-----------|---------|------|---------|------|-----------|-------|---------|------|---------|-------|--------|-----|
| <400> 488 | | | | | | | | | | | | |
| agaat | tttag | tagg | gtttta | agga | agaaa | acgat | ccaag | cagt | gggtt | ttat | cgagct | 60 |
| cccac | gcag | ttga | agggtg | tcgc | agcaga | aga | agatcgg | attc | gttcat | cctc | atcaca | 120 |
| aaag | atggat | cggg | ataagc | ttat | gaagat | ggct | ggtgca | gttc | gtactg | gtgg | aaagg | 180 |
| tacag | tacgc | agaa | agaaga | aagc | agttca | cagag | ccaca | aca | acagatg | acaaa | aggct | 240 |
| ccaa | agtacc | ttga | agaggt | tagg | agtga | tact | attcct | gct | attgaag | aag | taa | 300 |
| ttt | caaggat | gag | atggtca | ttc | attttat | aaac | ccaaaa | gtt | caagcct | ctatt | aatgc | 360 |
| caata | catg | gtg | gtcag | t | gatctccca | gac | aaaaaat | ttac | aagatc | tcct | tcccg | 420 |
| aatc | atcaat | cag | cttggac | ctga | taattt | gatt | aattt | aaga | agattg | cca | acag | 478 |

<210> 489
 <211> 608
 <212> DNA
 <213> Pinus radiata

| | | | | | | | | | | | | |
|-----------|--------|-------|--------|-------|---------|-------|--------|------|---------|-------|--------|-----|
| <400> 489 | | | | | | | | | | | | |
| tgac | gacga | gaaga | agctt | ctct | gaagg | caagg | tgcgg | tggg | gactag | attc | gatagc | 60 |
| ggct | ctgggt | ttaa | agttct | gaatt | aaacg | ggct | ttggct | aaaa | agtaaa | aaac | ggttgg | 120 |
| aatt | ttagca | ggag | gagctg | atag | agtgtt | attat | cggga | cgg | atgaaat | aatt | gaagcc | 180 |
| aaag | gggctt | atgt | gtgtgt | ttt | gcggact | tctg | cagta | aggg | gaaatg | gaatt | atttgg | 240 |

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| agtgaagtag | gtgttcttgg | agaaatatgc | gggcagctca | taataacagc | aataatagtg | 300 |
| agaaatcttg | cgtgttgaga | tctctctgag | cttcgctttt | cagaatgagg | accggcttct | 360 |
| cccagcagca | tcggaagg | gaaaagagga | gtctcaattc | agagctatgg | catgcatgtg | 420 |
| ctgggccact | tgtgtcccta | cctgctgttg | ggagccgtgt | tgtatatttt | cctcaaggctc | 480 |
| acagtgagca | ggtggctgcc | tcaacaaaca | agaggttgat | gctcacattc | ctaactatcc | 540 |
| aaatcttcca | ccacaattaa | tctgccacta | cacaatgtta | ctctgcaggc | agatgtggag | 600 |
| acagatga | | | | | | 608 |

<210> 490
 <211> 331
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 490 | | | | | | |
| ttgaattctt | gtcttcccc | cagctgaggc | tctctgagac | caagggtgaga | ttcagccagt | 60 |
| agtaagctat | agattgatag | ttcagagaaa | agactgaaag | gcaaaaacta | tatagacata | 120 |
| acaacggaga | gagcagcaca | ggaaccaggt | tgcataatgg | ctaggcctca | aagatacaga | 180 |
| ggagtccgtc | agaggcactg | gggatcatgg | gtctctgaaa | tccgccatcc | cttattgaag | 240 |
| accagaatat | ggctaggaac | atctgaaaca | gcagaggatg | cagcagcagc | atatgatgaa | 300 |
| gctgcaagga | tgatgtgtgg | gccgagagct | a | | | 331 |

<210> 491
 <211> 431
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| <400> 491 | | | | | | |
| ccgctatcct | ttccattaca | tcccacgtta | ggtcacgggt | tcgaaccctt | gcacggccat | 60 |
| tcttctgtta | agatgggtgag | atctccctgc | tgcgacaagg | ttcataccaa | taacaaaggc | 120 |
| gcctggacca | aagaagaaga | cgagcgtctc | atagcacaca | ttgaagccca | cggcggagggc | 180 |
| tcatggcggt | ctcttcccaa | ggccgcaggg | ctgctgcgat | gtgggaagag | ctgcagggtg | 240 |
| cgatggataa | actacctgcg | tcctgatctg | aaacgcggaa | gcttttcaga | agaagaagac | 300 |
| gatctcatca | tcaaaactcca | ctccctcctc | ggcaacaagt | ggtcgcttat | tgcagggaga | 360 |
| ttgcagggcg | aacggacaac | gaaaataaaa | aattactgga | acacgcacat | gaaaaggaaa | 420 |
| ttgttgagca | g | | | | | 431 |

<210> 492
 <211> 469
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 492 | | | | | | |
| gccagagctg | tggtgtttcc | cagaagagga | tatcatcagc | tgtccagttt | gtcctaagag | 60 |
| actacagaag | aagaatatag | aagatgggta | gatccccctg | cccccaaaa | gaagcgctta | 120 |
| accgtggggc | ttggacaggc | atggaggata | cgattctcac | cgagtacatt | cgagttcatg | 180 |
| gcagtgggtg | ctggaaagat | atctccaaaa | gagcaggtct | taagaggtgt | gcaaagagtt | 240 |
| gcagattgcg | ttggctgaac | tatcttcgtc | ccgatattaa | acgtggtaac | atttctcccg | 300 |
| aggaagaaga | gtcattatt | cgggttgcac | gccttcttgg | aaatcggtgg | tctctgatag | 360 |
| caggacgact | gcctgggtcg | acagacaacg | aaatcaagaa | ttactggaac | actcatatga | 420 |
| gcaagaagcc | atggctgtca | atggacgaat | ctcagtccaa | tacttcgca | | 469 |

<210> 493
 <211> 380
 <212> DNA
 <213> Pinus radiata

<400> 493

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gaggaggagg | acgaggagga | ggctgggaag | gagctggagg | cgtgggagag | agcatacgct | 60 |
| gacgaaaggt | catgggaaac | cttgcaggag | gacgaggagg | gtcttctcaa | ctttgacaag | 120 |
| aaacagcagc | aacagcaaca | gcgccaatac | agacgccgtc | tgcagtctgc | tgcagccgcg | 180 |
| gcttcaaaca | ttcagcgagg | attgatccgt | tatctctaca | tcatcatcga | cttctctcgg | 240 |
| gcggcagcag | agaaggattt | caaaccaa | cgaatggtgg | tggttgcaaa | ttgtgtcga | 300 |
| gcatttgtga | gagaattctt | tgatcagaat | ccactaagtc | agctgggtat | tgttattata | 360 |
| aaaaatggcg | ttgcacatcg | | | | | 380 |

<210> 494
 <211> 420
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 494 | | | | | | |
| gtcgagctcc | ttgtgctgag | aaaaccata | caaacaaagg | cgcttggagt | aaagatgaag | 60 |
| atgaagcact | cgttgcatat | attcaagccc | atggagaagg | cagttggcgt | tccttccca | 120 |
| aggccgctgg | gttgcagcgg | tgtggcaaaa | gctgcaggct | tagatggata | aattatctcc | 180 |
| gtcctgacct | caaacggggc | aatttcagcc | cagaagaaga | tgagatcatt | atcaaacttc | 240 |
| attctatgtt | gggtaacaag | tgggtcttga | tcgcaagcaa | attgccaggg | cgaacagata | 300 |
| atgagataaa | gaattactgg | aacactcaca | ttaagagaaa | aatgttagaa | aggggtctag | 360 |
| atccttctac | ccatctccct | ttaatgtcag | accatggctc | ttttgagtc | tccagcaaga | 420 |

<210> 495
 <211> 568
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| <400> 495 | | | | | | |
| aaaagttgtt | cctccactgg | atttcaactca | gcagccacct | gcccaggagc | tgactgccag | 60 |
| ggatcttcat | gacaatgaat | ggaaatttctg | gcatattttt | cggggtcagc | ctaagaggca | 120 |
| tctgctcaca | acaggatgga | gtgtttttgt | cagtgcgaag | agacttgagc | ctgggtgattc | 180 |
| tgtgtctctt | atttggaatg | agaaaggaca | actgttgttg | ggaattagac | gagcaaacag | 240 |
| gccacaggct | gtaatgccct | cattgggtact | ctcgagtgat | agcatgcata | tagggctcct | 300 |
| tgctgcggct | gctcatgctg | ctgctacaaa | tagtcgattt | actattttct | ataatccaag | 360 |
| ggcaagtcca | tctgaatttg | tcatacctct | ggcaaagtat | gttaaagcag | tttatcatac | 420 |
| tcgtgtttct | ataggaatgc | gttttagaat | gctatttgag | acagaagagt | cgagtgttcg | 480 |
| cagatatatg | ggcaccataa | ctggcataag | tgacttggat | caggttcgat | ggccaaattc | 540 |
| acattggcgt | tctgttaagg | ttgggttg | | | | 568 |

<210> 496
 <211> 396
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| <400> 496 | | | | | | |
| tgggagtttg | ctaattgattg | tttccgga | ggagaaaagc | agctgctctg | cgaaattcat | 60 |
| agaagaaaaa | gcgtccagca | atcttcagca | gcccctgcta | gcagatgcgt | ttcgccggctc | 120 |
| aattctgttg | aagagcaggc | attgtcttcg | acctcctccc | ctgtttcttc | tcacgcagag | 180 |
| gcggcgttag | ttaattgttg | tcaaaatagc | acatccgggc | tccatggtga | aaatgaaaaa | 240 |
| ctcagaaaaa | ataatttgct | tctcatgtca | gagctggcac | aaatgaagaa | acagtgaac | 300 |
| gatctcctcc | tgtttctgtc | aaagtgtgta | aacattaccc | cggacaacct | cagcaatatc | 360 |
| ctgatagccg | cttctcaaac | gaattgccgc | gatgaa | | | 396 |

<210> 497
 <211> 643
 <212> DNA
 <213> Pinus radiata

<400> 497
 cggcaagtgg ggagtgccgg acaatttgta tggagctcag gaagacagtg gtggaagtag 60
 tgttaaacag aagaacttga aggatgggga ccaattcacc agtagtgatg aagctgacag 120
 tgaggtcaat gaattcaaca ttatgaaaag aagcaattca ggggttgat atgaagataa 180
 caaaagaagt ggggggcaag gtgatggcaa tcagtacagg tcacgtcact ctcgagcat 240
 ctccatggat agcattatga gtaagatgca taacttcagt gaagacttgg aacaggaacc 300
 gtctcaaggt cggaatgtca gacactccca tagcaattcg atggatggaa gtacaaattt 360
 caatgtggaa ttcgggaatg ggggaattcag tgcactctgag atgaagaaga tcatggccag 420
 tgagaaactg gcagagcttg caacgggtgga tccaaaacgt gtcaaaagga tattggctaa 480
 tcgccagtct gctgcacgct ccaaggaaaag aaagatgcgc tatatctcag agctggaacg 540
 caaagtccag accttgcaaa ctgaggcaac aactttgtcc gcacagctga ctcttttgca 600
 gagggatcaa ctggactggg cagtcagaac cagcagctca agt 643

<210> 498
 <211> 328
 <212> DNA
 <213> Pinus radiata

<400> 498
 aaaatctgta cctagagccc agcaatatcc ttgcgaatgg ctgacggcca ccagttcaac 60
 aatattttgc ttgtaggtcg aggcggcacg aatccgggtc aactgaggat acattctgga 120
 ggtatagtgt ggagaaggca ggggtggaggc aaggtgggtt atgtggcgaa aaacgaagtc 180
 aagagtttga gttggactcg agttcccagg ggttatcaac tcggtgtcaa gcttaaagct 240
 gggttgaaca tcaagcttgc gggatttctg gaacaggatg tcggcaattt gacaaatttc 300
 atgacaaaca caataggatt agtcccca 328

<210> 499
 <211> 372
 <212> DNA
 <213> Pinus radiata

<400> 499
 gttgtattgt attgcaagtg aggaaattta ggaggtgtgg cgtaaaatgg gagaccacag 60
 tgggtggagag agcagtcctc attctgacat agagtctacc ggcattccaca ataattggatc 120
 ttctttcttc tcacaatcca tcatacgaga gcaagaccgg ctgcttccca tagccaatgt 180
 ggggcgcac atgaagaaaa ccttcccaac caacgccaa atctccaagg aagccaagga 240
 aatcatgcaa gaatgcgtct ccgagttcat tagctttgtt actggagaag catccgacaa 300
 gtgtcacaag gaaaagcgca agaccatcaa cggcgatgac atactatggg ccatgaccac 360
 tctcgatttc ga 372

<210> 500
 <211> 344
 <212> DNA
 <213> Pinus radiata

<400> 500
 ccgcaacatt caacgtaatg aatatcataa tcttttcaac ttcattcagtt ccaagggatt 60
 gaaaataatg aacttaggag atgcacatgg caccagtggg gttgctgccg ttctcgagaa 120
 ttcggatgat gaagctgtgg atccacatct tgaacgtatc aaaagtgcac gtgaaggcgg 180
 tgctggagaa gatagtgatg aagaggcatg ctacactggg gacttatctc tgatatgtgc 240
 tgtagtcaaa gaactaatat gcacacatga ttaacaagag ttaaatacaag agactgatgt 300
 ctgtttctgt tttgtttgtg tgcaggatga ggattttgtt gcag 344

<210> 501
 <211> 462
 <212> DNA

<213> Pinus radiata

<400> 501

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gggaggcaga | gaaggaacgg | aaaaaggagt | gaatttttgt | gggtttgtgt | ttattgggaa | 60 |
| gatggggtgt | gtgtcgtcca | aggtggagaa | tgaagaatta | gtgaaaagat | gcagggacag | 120 |
| gaggaggcta | atgaagcagg | cagtgaattc | caggcacaat | tttgctgcag | cccacattgc | 180 |
| ttatttgagg | gctctgcaaa | acacagggaa | tgctctggta | caatttgccg | agggggaatc | 240 |
| cagtgttatg | aatggcaatg | ctattgaaga | agcggccaca | ccaatgccag | cgacccccatt | 300 |
| aacagcatct | catcgccatc | ccatgaaatt | ccatcctcct | cctccgcctc | cgccgcgcgc | 360 |
| attggtgcct | agcagcccct | ccgtgagtc | cagcatggag | agctttcgta | tgccatccaa | 420 |
| acacaatccc | ctcagtaggt | ctacttcaga | cattagctat | gt | | 462 |

<210> 502

<211> 504

<212> DNA

<213> Pinus radiata

<400> 502

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tatgtctctg | catttcagcc | agtcctgggt | ttcaagttag | ttagtccaat | aaagcagaga | 60 |
| tgggtcgtgc | tccatgctgc | acaaaagttg | gtctcaacaa | gggagcatgg | tctgccgaag | 120 |
| aggatagtct | tctgggaaga | tatatccaaa | ctcatggtga | aggcaattgg | aggtctctgc | 180 |
| ccaagaaagc | agggtgcga | agatgtggaa | agagctgcag | attgctgttg | ctaaactatc | 240 |
| ttcggccatg | tatcaagcgg | ggaaatatta | caacagatga | agaagaactt | attatcagaa | 300 |
| tgcatgctct | cttgggcaac | cgatgggtcg | taatagcagg | gagagtcccc | ggccgaacag | 360 |
| acaacgaaat | aaagaactac | tggaaacta | acttgagcaa | gaaacttgct | gtcaggggaa | 420 |
| tcgatcccaa | gactcataaa | aaaatcacga | cggacggcac | gaacagagtc | aacggtgatc | 480 |
| gtttcagcca | gaggaaaggt | gaga | | | | 504 |

<210> 503

<211> 416

<212> DNA

<213> Pinus radiata

<400> 503

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| acggcaactc | attcgtgaac | tagaacagat | gtttaacatt | gaaggagaa | ttgaggatcc | 60 |
| aagcaaaggt | tggcaggttg | tataactga | caatgaagg | gatatgatgc | ttgttgagaa | 120 |
| tgatccatgg | caagagttct | gtagcattgt | gcggaaaatt | tacatttata | cgcgtgaaga | 180 |
| ggttgaaaaa | atgacccac | aaacccaag | tgcaactca | agggatgttc | agaagagcct | 240 |
| gtcacaagag | gaaacttccc | ggagttctga | tcgtcaagat | tcataaattg | cggggggtcac | 300 |
| cgtgaaagg | agttctgatg | cctgatacca | tttcaatctg | catgttggtc | acttctgtcg | 360 |
| ggcctgctaa | aggggcatca | aagggcattg | tttagttggc | cgtttgatgc | cttggg | 416 |

<210> 504

<211> 1206

<212> DNA

<213> Pinus radiata

<400> 504

| | | | | | | |
|-------------|------------|------------|-------------|------------|-------------|-----|
| gccgaaactc | gaatcgatat | gctttgtggc | cggttcaaat | atttgagctg | gcttagcttc | 60 |
| tctgggttcag | aaatggcgga | ctaaagtaat | agtgtgcccc | gaggtctggg | gttcgaatct | 120 |
| cgttggcgtg | aaaggtcaaa | tttttctctc | gagtttcatt | gattctgaaa | aactggcata | 180 |
| gctatggcga | tgagcaatgg | gagattgtgt | gaagatttgg | ataggattaa | ggggccgtgg | 240 |
| agccccgagg | aggacgcgtc | gctgcagagg | cttggttcaga | aatacgggcc | gaggaactgg | 300 |
| accctgataa | gtaaaggaat | cccggggcga | tccgggaaat | cgtgcaggct | acgggtggtgc | 360 |
| aatcagctga | gccctcaggt | ggagcacaga | ccttttaccc | cgtccgagga | tgctgctatt | 420 |
| ctgcaggccc | acgcgcagca | cggcaacaaa | tgggcaacaa | ttgcccagag | cctccccggc | 480 |
| cgcaccgaca | acgcgatcaa | gaaccactgg | aactccacgc | tacggaggcg | ctgccgggac | 540 |

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|------|
| cccaaaaagg | gcatcggttg | ccacctggac | gacgaaatca | gcagcttaga | cgccgctcgc | 600 |
| aagcggagca | gcgacggctt | ctccacgat | ggcagcagtg | cgctggagga | caacggatgt | 660 |
| agcagctggg | aagtggactc | caagcggctg | aagagactag | gagaactggg | aacagagcag | 720 |
| ggccccgagg | ttgaagccga | ggtcgagggt | tccgaccgga | gcgacgcca | cccgggacgc | 780 |
| gtgctgtaca | ggcccggtgc | ggtcggtgtc | tttttcagtt | cattcgggaa | aaccgttgcg | 840 |
| aatctacagg | aaacggcggc | cggcgagctc | ggtgtcgatc | cgccgacctc | gctgagcctg | 900 |
| tcgctgccc | gactcgatcc | cgcgatcccc | tctccgaagc | tgtccactca | aaaggactct | 960 |
| cacaacaata | gcacagttaa | taacaatatt | cctattccgc | cggtggtgaa | tacatgagag | 1020 |
| cagacgaggc | ggtggtggag | cgactcagca | ccgccgtcaa | ggccacgggtg | gcaagcatgc | 1080 |
| taacgcctgt | tctgaactcg | tccgacagtg | gctacaaccc | accggctgtg | agcagcgacc | 1140 |
| ttctggcgct | gatgcgggat | atggttgcca | aagaagtgca | gaaatatatg | tccagtcac | 1200 |
| accagc | | | | | | 1206 |

<210> 505

<211> 386

<212> DNA

<213> Pinus radiata

<400> 505

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|-----|
| gagaatttgg | tcgttcatct | gaaaaaggac | gaggatatgg | aaggggcccgt | ggccgtgggtg | 60 |
| gtcgtggagg | atatggtaat | gatgctgggtg | atgaaagtca | gaggcctcgg | aggcagtatg | 120 |
| aacgtcggag | tggtactgga | cgaggctacg | aggttaagag | agaaggggct | ggtcaaggaa | 180 |
| attgggggtac | tcctacagat | cagggattca | cagaggaacc | tgaagagctg | agtcgtgcag | 240 |
| aggaagagaa | gactgtgacc | cctgagaaac | aggaagaaca | gaaacccagt | gaagagtcca | 300 |
| atcaagaaat | ccctgcacca | gagtctgaag | agaagaaaga | ggaggaagaa | gacaaggata | 360 |
| tgactcttga | tgagtatgag | aaagtg | | | | 386 |

<210> 506

<211> 408

<212> DNA

<213> Pinus radiata

<400> 506

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| ggcagtgaat | agcagtctct | ctgttggaat | gaggttcaag | atgcgttttg | aaggagaaga | 60 |
| gtctcctgaa | cggaggttta | ctggtacaat | tattggcatg | ggtgagggtg | ataatgtgag | 120 |
| atggccagaa | tcaaagtgga | gatcacttaa | ggtccagtg | gatgaaacat | cagtgggtccc | 180 |
| gcgaccagag | agggtttcac | catgggaaat | tgagacgttt | gtagcttcat | ctgcagcact | 240 |
| taatcctttg | ccagcaccaa | ggactaagaa | gcctcggccc | aatttggtgt | cctcatctca | 300 |
| ggaattaatg | atacatggat | cgggcaaaac | agcaacagat | tcttcacagg | tacacagatt | 360 |
| gccaagggtc | ttgcaaggtc | aagaaatgag | gacctttgga | ggatcctt | | 408 |

<210> 507

<211> 320

<212> DNA

<213> Pinus radiata

<400> 507

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| gcaaagagtt | gcagattgag | ttggctgaac | tatcttcgtc | ccgatattaa | acgtggtaac | 60 |
| atttctcccg | aggaagaaga | gctcattatt | cggttgcatc | gccttcttgg | aaatcggat | 120 |
| gtagagaatc | gggggacatg | atttattcat | gcgccagaat | ttcacgattc | ctcatcgaat | 180 |
| tagtcatgca | atgtttgtgc | aggtgggtctc | tgatagcagg | acgactgcct | ggtcgaacag | 240 |
| acaacgaaat | caagaattac | tggaacactc | atatgagcaa | gaagccatgg | ctgtcaatgg | 300 |
| acgaatctca | gtccaatact | | | | | 320 |

<210> 508

<211> 395

<212> DNA

<213> Pinus radiata

<400> 508

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| ccggtccggg | cggtggagag | catcagcctt | ggagttacag | accaggaaaa | tacaagatgg | 60 |
| gtagatctcc | ttgctgctcc | aaagaggggc | tcaaccgcgg | ggcctggacc | aaaagggagg | 120 |
| atatgattct | ctccgaatac | gttcgaattc | atggcgatgg | tggatggaga | aatcttccgg | 180 |
| aaaaagcagg | tcttaagaga | tgtggaaaaga | gttgcagact | acgctgggtg | aactatcttc | 240 |
| gtcccgatat | taaacgcgga | aacatttgcc | ccgccgagga | ggagcttatt | attcggctgc | 300 |
| atcgctttct | tggcaatcgg | tggctactga | tagcaggacg | actgcctggt | cgaacagaca | 360 |
| acgaaatcaa | gaactactgg | aacactcatc | tgagc | | | 395 |

<210> 509

<211> 658

<212> DNA

<213> Pinus radiata

<400> 509

| | | | | | | |
|------------|-------------|------------|-------------|------------|-------------|-----|
| gccatatcta | catgaatctc | gacatcttca | tgcgatgaag | agagcgagag | ggtgtggtgg | 60 |
| tcgctttctg | aacacaaaaa | agttagagga | ctcgaaagca | aatgtggata | atggaaagac | 120 |
| accagaagga | catactgcgc | aggctgggag | ttcttcaggt | tctgaagttc | tgcaatctga | 180 |
| aaatggaaat | ggaaattcta | cccaggagct | acatgggtgct | tgtgggatgt | caggctcaca | 240 |
| agttactagc | attgcacagt | catctgaaaa | tggtagaact | tatcaatatt | ctcactactaa | 300 |
| tggagcatat | cttaaccact | atcaacatcc | acatttccat | atatcagctt | ttcaccgcgt | 360 |
| ctcaagtggg | ggcgaggaag | gcagcagtg | aaaagggtggg | agcataatat | ctggtggatc | 420 |
| acaacaacga | gttgttgtga | tccagtgaag | tgtgaaataa | gatgttagtg | gtgagaatct | 480 |
| cacgtgcttg | gttctccgtg | tcacattgac | tataaagata | ggtctcaatg | agtgcgaaga | 540 |
| tcataaaatg | aaacagattt | tataaagtct | tcgcaatttt | atggttcaga | ggccattatc | 600 |
| agtaaaacag | gcaaccgcgtg | atggtttgtt | tttgaatggg | ttgcagtttg | cacaaaca | 658 |

<210> 510

<211> 351

<212> DNA

<213> Pinus radiata

<400> 510

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| cacgagggcc | agagctgtgg | ctgttcccag | aagaggatat | catcagctgt | ccagtttgtc | 60 |
| ctaagagact | acagaagaag | aatatagaag | atgggtagat | ccccttgccc | cccaaaagaa | 120 |
| gcgcttaacc | gtggggcttg | gacagggcatg | gaggatacga | ttctcaccga | gtacattcga | 180 |
| gttcatggca | gtgggtggctg | gaaagctatc | tccaaaagag | cagggtgagtg | tcaataaaaa | 240 |
| tttaatagca | attcttttta | ttagcagaag | gaagtagcaa | tctcccaggt | tatatataac | 300 |
| aattcatcag | tcatatatat | cagaaattta | tagtcgagtc | taagaggag | a | 351 |

<210> 511

<211> 754

<212> DNA

<213> Pinus radiata

<400> 511

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gttacacggc | ctgggaaatt | ccgtagtgtg | caagatgggt | atgctgtgag | ggcttccctc | 60 |
| aaggctgaag | atggagtgtt | atatcctctt | gaaaaaagct | ttttcttctt | gcctaaacct | 120 |
| ccgacactta | ttcttcacga | ggagattgaa | tatcttgagt | ttgagagaca | tggagctgct | 180 |
| ggtacgagta | gtatgtcttc | acactatctt | gatcttatta | taaagctgaa | gagtgcagca | 240 |
| gagcatcagt | tccgaaatat | tcagaggaat | gaatatcaca | atcttttcag | cttcataaac | 300 |
| accaaggggt | taaaaatcat | caatttagga | gctacagaaa | ctattgggtg | agttgcagcg | 360 |
| gctcttcaga | attctgcaga | tgaagctgta | gatccacatc | ttgagcgaat | aaaaatctac | 420 |
| gtgatgggtg | agctgggtgct | gaagacagcg | acgaagagga | tgaagacttt | gttgcagaaa | 480 |
| acgatgatgc | tggatctcca | acagatgagt | cagaagaaga | gggatcagat | gcaagtgcga | 540 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gtgcagaggt | caagcaacct | gcaaagaaag | aagtaaagaa | aaaaaaggcg | gtggctccca | 600 |
| aggcaaccga | gaccaagaag | aagaagaagg | gatgacgagg | aagagggagg | aaagaaaaag | 660 |
| cagcggcgaa | agaagaagga | tccaaatgcg | ccaaagaaag | ccatgacttg | gttttgcct | 720 |
| tttctcaagt | gaaagagaga | tctgaaaaag | agtg | | | 754 |

<210> 512
 <211> 424
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-----|
| <400> 512 | | | | | | |
| cttcctgggtg | ttggtgctgt | gatttctctg | ccattctgtg | ttggggttat | ggtttttagct | 60 |
| tcactacaag | ccttttagcaa | gcctcacaaa | taagctttgc | agtaggatgt | ctcctcccc | 120 |
| gtcatattcc | atgtttccca | attcaggaat | gggcttaaat | ccctcagtga | catcttcaga | 180 |
| accctctagt | caggctctccg | gatcgatccc | ccatcaatat | tcaggctccg | aggaagaccc | 240 |
| taaaactgacg | atcgatgaaa | gaaagcagaa | gagaatgctt | tctaacagag | aatctgcaag | 300 |
| gaggtccagg | atgagaaagc | aacagcattt | ggatgaattg | agagcccgaa | cagctcatct | 360 |
| cagagcagag | aacagtcata | tgctaacaaa | attcaacatt | gcttcacaga | aatacatgca | 420 |
| gctg | | | | | | 424 |

<210> 513
 <211> 487
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|-------------|-------------|------------|------------|-----|
| <400> 513 | | | | | | |
| cgaggctcagc | cgagaaggca | cttggttaaca | acaggctgga | gtgtctttgt | tagcgcaaaa | 60 |
| agactagttg | caggcgatgc | atttattttt | ctgaggggtg | aaaattcaga | attgcgggtg | 120 |
| ggggtgaggc | gagttatgag | acagcaaatg | aatatgccat | catcagtcac | atctagtcac | 180 |
| agcatgcatt | taggtgtcat | tgctactgca | tctcatgacg | ttacaactcg | gacctgttt | 240 |
| actgtttatt | ataaaccaag | gacaagccaa | tcagagttca | ttattcctta | tgataaatat | 300 |
| atggaggctg | tgaatagcaa | cctttcagtt | ggaatgaggt | ttaagatgag | gttcgagggg | 360 |
| gaggaggccc | cagaaaggag | gtttactgga | actataattg | gaataggtga | cgttgatcct | 420 |
| tccagatggc | catcttcaaa | gtggagatct | ctgaagggtgc | aatgggatga | aacctgtgca | 480 |
| attccac | | | | | | 487 |

<210> 514
 <211> 648
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 514 | | | | | | |
| gtttttccga | aatatgggac | gttcaagggtt | tccaacaaac | tgctatgttc | tctcagccct | 60 |
| ttctcttttt | cctgcggctc | gagcgtgagg | tcgatgtatt | cattcctgtt | aaattttctt | 120 |
| ttgttctctt | ttccattttc | gatgcctctg | tcgagttctt | ttttctgaga | tttttgaggt | 180 |
| cttcgaagg | ttgagtttgg | cctcagcctt | ggaagtatct | cttttggtct | taggtaattg | 240 |
| aattgtaacc | ttcccgaaca | acggcggtag | tggtctggag | attcgcatgt | acgaagataa | 300 |
| aatggcgcaa | tctgaggaac | agcctaataa | agccacgggt | cctcgccctg | ctgattctca | 360 |
| tagatctata | ccaacgcctg | ttctcatgaa | aacctaccgg | cttgctgacg | atccgagctt | 420 |
| gaacgacatt | atctcatgga | acgaagacgg | cactacgttc | atcgtttggc | ggcctgcgga | 480 |
| attcgcccg | gatttgcctg | cgaattactt | taaacacaa | aatttctcca | gttttgcctg | 540 |
| gcagctgaat | acatacggat | ttcgaaagat | tgtgccagac | agatgggagt | tcgccaacga | 600 |
| gttttttcgc | agaggagaaa | agaaattgct | ctgcgagatt | catagaag | | 648 |

<210> 515
 <211> 315
 <212> DNA

<213> Pinus radiata

<400> 515

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| tgcatttcag | ccagtccatg | gtttcaaggt | cgaatctcct | tgctgacatg | aatccatcaa | 60 |
| tatatataga | gagagagaaa | tatacgtttt | tcagatttaa | gcatggccgt | ttaataatct | 120 |
| gcattgcatg | gcgagattgt | atttgtgtta | gaagttgatt | ttctgttttt | tctctttcag | 180 |
| ttagttagtc | caataaagca | gagatgggtc | gtgctccatg | ctgcacaaaa | gttgggtctca | 240 |
| acaagggagc | atgggtctgcc | gaagaggata | gtcttctggg | aagatatatt | caaactcatg | 300 |
| gtgaaggcaa | ttgga | | | | | 315 |

<210> 516

<211> 563

<212> DNA

<213> Pinus radiata

<400> 516

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gacacgtagt | ggatcaaaga | attcggcacg | agctcctgtc | tctgggttct | ctatgaattc | 60 |
| taacatgggt | gtgtctggag | gtctagatga | aagtgggttt | tcacagcctc | caccaaattt | 120 |
| tgcaaagatg | aatgctccca | cgagaacatt | cactaagggt | tacaagctag | gttctgttgg | 180 |
| gaggtcagtg | gatgtaacac | gtttcagggg | ctatccagat | ctgcgtgccg | agcttgaccg | 240 |
| tatgttttgt | ctagaaggcc | agctggagaa | cccaagatca | agctggcagc | ttgtatttgt | 300 |
| tgacaaggag | aaggatgttc | ttctccttgg | ggatgatcct | tgggaggagt | ttgtcaataa | 360 |
| tgttcgattt | attaagatac | tctctcctcc | agaagtgcag | cagatgagtc | aggaagatat | 420 |
| ggagtttttg | agttccattc | caactcagca | gcagacaagc | agtagttcag | acgactgtgt | 480 |
| agctagaaat | tcttctcgca | acatcagatc | agttctcaca | tcgcctgggt | ccctggacgt | 540 |
| attaagtgtg | gatccaattg | tac | | | | 563 |

<210> 517

<211> 392

<212> DNA

<213> Pinus radiata

<400> 517

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| ttcatgacaa | tgagtggaaa | tttcggcata | tttatcgggg | tcagcccaag | cggtcatctgc | 60 |
| tgacaacagg | atggagtgtg | tttgtttagt | caaagagact | cagtgtctgt | gatgtctgtgc | 120 |
| tttttattag | gaatgagaaa | ggacagttat | tgctgggaat | caggcgagca | aaccgatccc | 180 |
| aaacggttat | gccatcatca | gtgctgtcca | gtgatagcat | gcacataggt | gttcttgctg | 240 |
| ctgcagctca | tgctgttcca | acaaactgcc | gcttcactat | tttctacaat | ccaagggcaa | 300 |
| gtccatcaga | atttgtcata | ccattgtcta | agtatgaaaa | ggcagtttat | cacacacgag | 360 |
| tttcaattgg | aatgcgcttc | cggatgctgt | tt | | | 392 |

<210> 518

<211> 319

<212> DNA

<213> Pinus radiata

<400> 518

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tttaagcatt | tcattgagtc | ttaggtcacg | gtttccaatc | ctggcaggtc | tcattattct | 60 |
| gtctctctgg | caagatgggg | agaactccct | gctgtgaaaa | aggctacata | aacaaaggcg | 120 |
| cgtggaccaa | agaagaggac | gatcgctcca | tcgtccacat | tcagagccac | ggcgaaggcc | 180 |
| gctggcgctt | gcttcccaag | gccgcagggc | tgatgcgatg | cggaagagt | tcagggtccc | 240 |
| gatggataaa | ctacttgctg | ccacatctca | agcgtggaaa | cttctcagaa | gaagaagatg | 300 |
| agttcatcat | caaactcca | | | | | 319 |

<210> 519

<211> 513

<212> DNA

<213> Pinus radiata

<400> 519

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| accgtcgaga | gagcttcata | tctaaccaat | acataacacc | tgtatggctt | catagcttca | 60 |
| cagcaacagg | gcaccatggg | ccgagctcct | tgctgggata | aaatgggagt | aaagaaaggc | 120 |
| gcctggactc | tagacgaaga | taaaatactc | gtcgattaca | ttaccaaaca | tggccatggc | 180 |
| aactggcgcg | cactgcccga | gcaagcaggg | ctcctgcgat | gtggaaagag | ttgtcgcttg | 240 |
| cgggtggacga | actacctgaa | acccgacatc | aaaagagggg | atcttagtcc | agaagaggaa | 300 |
| gatcaaatta | ttaaattgca | tgagctcata | gggaatagat | ggccactat | tgcttcgtac | 360 |
| ttgccaggaa | gaaccgacaa | tgagatcaag | aacgtgtgga | acaccattt | aaagaaacgt | 420 |
| ctcgcgcgta | tgaaagccga | ctcggttgca | gtcgacgcac | agccaacgcc | tgcgctcttc | 480 |
| ctggcctcat | ccactacaga | aatgacgtgc | cac | | | 513 |

<210> 520

<211> 219

<212> DNA

<213> Pinus radiata

<400> 520

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gtgcattgaa | gccaatggcg | gaggggctcc | tggacgctcg | cttcccaagg | ccgcagggct | 60 |
| gcagcgatgc | gggaagagct | gcaggctgcg | atggataaat | tacctgcgtc | ccgatgatgt | 120 |
| caagcgtgga | aatttcacag | aagaagaaga | cgatcttata | atcaaactgc | actcactcct | 180 |
| cggcaacaag | tggtctctaa | ttgcagggag | attgccag | | | 219 |

<210> 521

<211> 392

<212> DNA

<213> Pinus radiata

<400> 521

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cttagcgacg | gttcccaatc | cctagtcctc | gcactttact | cgtctctctg | tgaagatgag | 60 |
| gagattgcgc | tgtgagaagg | gtaatacaaa | caaaggggcg | tggacccaac | aagaagatgc | 120 |
| ccgactcatc | gcctacattc | gagcccacgg | cgaaggcggc | tggcattccc | ttcccagggc | 180 |
| cgcaggtctg | ctgcgatgtg | ggaagagttg | caggtgcgca | tggataaatt | acctgcgtcc | 240 |
| taatctgaag | cgtggaaact | tctctgaaga | agaggacgat | ctcataatca | aactccacaa | 300 |
| cctcttgggc | gataagtggg | ctcttatcgc | gggtcgattg | ccgggcccga | tggaagacca | 360 |
| gataaagaac | tattgggata | cccactttaa | ga | | | 392 |

<210> 522

<211> 447

<212> DNA

<213> Pinus radiata

<400> 522

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aggaaaggag | gttcatattg | ctgagcctga | ccaggtttca | gatccaccaa | aggcaatcaa | 60 |
| atatgagcca | cctgcagtaa | gctgtgatca | ggagaaacct | ttgcaaaagt | tatcaaaaga | 120 |
| aactcaagtc | aaacagcacg | gcaaccccac | caggagctgt | actaagggtg | ataagcaggg | 180 |
| gatagctctt | ggaagggccg | ttgaccttac | taagtttgaa | ggttacgagg | aattaatttg | 240 |
| tgagcttgaa | cgcatgttca | acattgaagg | agaactacgg | aatcctagca | aagggttgga | 300 |
| ggttgtgtac | acggataatg | aaggagatat | gatgcttggt | ggatgatgat | catggcagga | 360 |
| gttctgtagc | attgtgcgta | agattttcat | ctatacacga | gaagagggtg | agaaaatgac | 420 |
| tcctcaaaag | catgccaaac | tgcaagg | | | | 447 |

<210> 523

<211> 822

<212> DNA

<213> Pinus radiata

<400> 523
 tggaaaccca aagctccgat aacaactaca tggctcggctt tgccttgccc aatgtcgtgg 60
 gattgcagta ctacacgggt accatcaatg gccgtgaaat gattcgacta gttcgcgagc 120
 ctgaaaatcg gtacgacccc aacgccatca aagttctcaa catgagcggc cagcaggctc 180
 gtcacatcga gcgcgtgtg gcgctggcac tggcgtccca tgttgatcaa tccctaattt 240
 taatcgaagg aatcgtgtcc agggctctgc ataaagggtg ttacaagtta ccttgctaaa 300
 tctacatttt cagtcacagg gattcgatgg gcatggctct tcagttgctt aaagggggccg 360
 gattgaatgt tattactgcg gaggaccaag agtttttaac ggcggaatcc attgctgcaa 420
 aagaaatata tgaagatcca ggggtgaagg aggttagaag ggtcgatgat atctttgggt 480
 ctcttaataa tccaagaag aggcagtcga tggaggcttg cgagcttgta acttcgacac 540
 tcttacagca ccagaaggag gcattggctt ggatgggtga gagggagaat tcttcgaaac 600
 ttccgccatt ttgggatgtt tgtgacaaga cgagtaagtc acagcagctc agatataaaa 660
 atgttttgac aaattttgag acgaatggaa ggcgaagcc tttgagaggt ggaattttgg 720
 cggatgatat ggggcttggg aagacgctgt cattgcttct gctcattgca acgaaccgtc 780
 ccgggtgccaa gctccctcct gttgtagata ttgctccctc tt 822

<210> 524
 <211> 390
 <212> DNA
 <213> Pinus radiata

<400> 524
 cttaattccg caacacaatg cgttttcatt ggagttgaga ttttcagatc ggcaattgcc 60
 aagctcaacg ccccaaat gtgattcgat gtttccctcc cactacacag cgttggcatt 120
 gcgtcgccaa atgtggagaa accccagaga gtccggacag agccattccc agcctccaga 180
 gaaagataga ggaaaaactt tcggccaatt taagggaatc cgaatgcaa aatggggaaa 240
 gtgggtgtcc gaaattcgga tgccgagatc gaaggagagg atctggctag gatcctataa 300
 aactgtcgag caagccgccc gtgcttacga tgccgcactc tattgctca gaggacaaa 360
 cgccaaattc aatttcccca attccgtgcc 390

<210> 525
 <211> 299
 <212> DNA
 <213> Pinus radiata

<400> 525
 cgagcaacag cgaagccgat ttccaaagat ggatagggag aaactcatga agatggctgg 60
 tgcagtcgcg actggcgga agggtacaat gcgaaggaaa aagaagacaa ttcataagac 120
 tgccacggca gatgacaaga gacttcaaag taccttgaaa agaataggcg tgaataacat 180
 ccctgctatt gaagaagtca atatttttaa ggatgaccat gttattcatt ttgctaacc 240
 aaagggtccag gcttctattg ctgccaacac atgggtgggt agtgggcatc gcaaacaaa 299

<210> 526
 <211> 101
 <212> DNA
 <213> Pinus radiata

<400> 526
 gggaaagacc cagatgaagt tgaagcgaga acgcgaccag caggcaaggg acgcttcaaa 60
 gcgcccgaac gggctgctga agaaagctta cgagctctcg g 101

<210> 527
 <211> 361
 <212> DNA
 <213> Pinus radiata

<400> 527
 atcgcttcgg cccgagcaat tttgcttctc tgctaaacga tgggaagagc gccttgctgt 60
 gccaacggtg acagaagcaa gggagcctgg accaaggaag aggatgacag gcttacccaa 120
 tatattcagg ctcatggaga aggatgctgg cgttctctcc ccaaggccgc aggtctgctt 180
 cgggtgtggaa aaagttgcag gctgagatgg ataaattatc ttcgccctga tctgaaacga 240
 ggagggtttt ctgaagatga agacgatctt attctcaaac tgcacgccct cctcggaaat 300
 aagtggcttc tgatagcggg tcgtttgcct ggtcgaactg gccacaaaaa tcaaaactac 360
 t 361

<210> 528
 <211> 337
 <212> DNA
 <213> Pinus radiata

<400> 528
 cgtaagagca atgttcatc attttgcaaa actcttactg cttctgatac tagcactcat 60
 ggaggatttt ctgttttacg aaggcatgct gatgaatgtc ttccacctct ggacatgagt 120
 cagcaacctc cttcgcaaga gctggtagcc agagatttgc atggaatgga atggcgattc 180
 cgccatata ttagaggcca accacggagg catttgctaa cactgggtg gagtgttttt 240
 gtcagctcaa agagactggt agcaggagat gctttcatat tcttgagggg tgaaagtgga 300
 gaactgcgtg ttggagtggg gcgtgctatg cgtcaga 337

<210> 529
 <211> 491
 <212> DNA
 <213> Pinus radiata

<400> 529
 agcactccga gaagcaatta aaaatgggtg ttgtccaaac tgcggagggt ctacatcgct 60
 gggagagatg cctggattcg acgaacacca tttccgtata gagaatacgc gcttaaagga 120
 ggagcttgat cgagtgtctg gcattgccac aaaatatata ggaagatcaa tgccgcattt 180
 ggcacctata gcaacaccac ctatgctcat gtcctctctt gaactcgcaa tggggagctt 240
 cgggtgggaag cagtcacagc ctgccgcgcc ctccggtcgat tttatttcag gtccactggc 300
 tgacgggcct ataattaatt gtggaacctt gacggattta gataaacctg tggcactgga 360
 acttgcaatg aacgggtgtg aggagttgat ccggatggca caaactgat agcctctctg 420
 gttgaaggat gttaatgcgg gcagcgtgaa agagcttttt gaacttggat gagtatggca 480
 gatcgtttcc t 491

<210> 530
 <211> 350
 <212> DNA
 <213> Pinus radiata

<400> 530
 ggtttcttta tatttatgtg cagattgcct ggacggacac ttgccaatgg acgtctcata 60
 tggctgtgcc aggccaacga agcggacagc aaagtcttcc cacgtgctct tcttgctaag 120
 agcgctctta ttcagactgt tgtatgcac cctctcgcgg acggtgtctt ggagtttggg 180
 actactgaag tggagcgaga agaccctggg ctagtccaac gcaccataag cttttttttg 240
 gagtaccca aaccgatatg ttcagagcaa tctacatcca gccacagtg ctcagacaga 300
 gacgaaaagg atcaagtggg catggtcaca ataatgtcct ccgacagcat 350

<210> 531
 <211> 437
 <212> DNA
 <213> Pinus radiata

<400> 531

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| ttcctgttcg | attcactgga | tgccgtgaac | atcaacatgg | aggccgtgca | caagatcgag | 60 |
| aagttcctgc | tagctccgaa | gatcgacgcc | accatttctt | ccgccgccgc | tccgccatgg | 120 |
| aagaccctgt | tcgccgccgc | cggtcttctc | ccagtggcct | tcagcaactt | caccgagacg | 180 |
| caggcagagt | acctgatcca | gcgcctccat | agccgcgggt | tcgaagtcga | gaaagcgcac | 240 |
| gcggctctcc | tctcgggtg | gcagggccgc | ccactggctt | ccgccactgc | ctggagggtgc | 300 |
| gggccccgc | cttaattaat | taaattatca | aaaaccaatt | tagcagacta | ataacagaaa | 360 |
| taaacaaaat | ctctgttttt | ccttttttct | tgtaattttt | cccgggtatt | ttctgttaaa | 420 |
| cctgagcttt | gaaaaac | | | | | 437 |

<210> 532
 <211> 508
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 532 | | | | | | |
| gaagaaaaac | aactttccat | aagtggacgg | aactggggag | aagtgaatct | agaaggaaaac | 60 |
| atgtcacat | ttttggttg | ttcgaaacca | gcttttgagg | tatccttggc | agatgtatct | 120 |
| caaacacagc | tccaaggaaa | gaatgacgtt | gtcctagaat | tccatgtgga | tgatacaact | 180 |
| ggagccaatg | agaaagattc | tctgatggaa | ctgagcttcc | acattccaaa | ctccaataca | 240 |
| acatttgctg | gggatgaggc | gagccctcca | gcacagattt | ttcgagagaa | aatcatgtca | 300 |
| atggcagatg | tggggtcatc | gggtggagaa | gcagttgcat | tgtttgagga | cattgctatc | 360 |
| cttactccaa | gaggtcgtta | cactattgag | ctccatctat | ctttcatgcg | gcttcaaggg | 420 |
| caggccagtg | attttaaaat | tcaatacagc | agtgttcttc | gcctttttgt | tcttccaaag | 480 |
| tcacctcaca | cacttgtggt | gatcaccc | | | | 508 |

<210> 533
 <211> 374
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 533 | | | | | | |
| tctaggtcat | tcacagaatt | ttagtactga | tgtcaatagg | atgccggatg | ttccaccccg | 60 |
| gagaggaggc | catcgacagg | ctcagtcgga | aattgcgttt | cgcttgccgg | acgatatcat | 120 |
| gtttgatggg | gatcttggtt | ttgctggttt | tgacatgccc | acggtctctg | atgacgcaac | 180 |
| tgaggccgaa | gatctgattt | ccatgtacat | ggatatggag | aaattaactt | cttttgagaa | 240 |
| gccgttgaat | tctgcggcgg | gagaaggatc | gaagctcccc | tcgggtgctg | agactaatcg | 300 |
| acctccgcat | cattcaagaa | gtctttctgt | cgatgctgta | ttttctggat | tcgaaggtaa | 360 |
| catggaagat | acga | | | | | 374 |

<210> 534
 <211> 487
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| <400> 534 | | | | | | |
| acgatcttca | ccctcgggtg | gctctctgct | tatcccgatt | cccagccaac | tgctattata | 60 |
| ttcggagtac | tgtacttcca | gaactgggtat | cttcaagcac | caagaccatt | ttctgagctg | 120 |
| ttaaagatac | tatgagtgat | atggatcggt | catcatcaga | agattcagtg | gattctcaag | 180 |
| gtgatgtgaa | tgcaaaactac | aagatgggtt | tctcggaaga | tgaaaaggat | ctcataagca | 240 |
| ggctgtacaa | tctactgggc | cagaggtggg | ctttgattgc | tgggcgaatt | cccggcagaa | 300 |
| ctgcagagga | aatagagaaa | tattgtagca | ggcgatatat | tagtgagtac | taggtcacat | 360 |
| gggtttctaa | tagtcaatga | agaagaaggg | tagaagcagc | cttgccctatc | taactgattt | 420 |
| aagtttgagg | tatatatatc | gacttttgag | gatggccata | tcttctgggg | tttataagga | 480 |
| agtatgt | | | | | | 487 |

<210> 535
 <211> 372

<212> DNA
<213> Pinus radiata

<400> 535
tttgtttgtg aggtggagag atcagaattc tgcgaggttt ttttgtcaat caaaaaacag 60
atggacaggg atcatcattt gcagcatcat cgagtcgtaa ttcaagcttt tcaaatggat 120
atgataaccc acagaacacg aataagaatt cttcttcggg gggaactggg gatgccggaa 180
gctttgaatg caacatctgc cttgaacttg ctcaggaccc aattgtgaca ctctgtggtc 240
acctgttctg ctggccttgc ctgtacaaat ggcttcacgg tcattcgaag tctcaagagt 300
gccctgtatg taaggctttg gtggaagagg acaaaattgt tcccttgtat gggcgtggga 360
aggtgggttc tc 372

<210> 536
<211> 836
<212> DNA
<213> Pinus radiata

<400> 536
gtttgttcga acgatgaaaa ccagctaaaa caaagcgcag ggattggcag gattcgagca 60
gtggtccttg gggcggagtt gatagaagaa gaagaaacct accatataca catacatata 120
ttatatacat agacacatgg gggctccgaa gcagaaatgg acttccgaag aggagggagc 180
tctcaaagca ggtgttgaga agtatggcac tggcaagtgg cggaccattc agaaggaccc 240
tgagtttggg cactgcctcg ccgctcgttc caatgtggat ttgaaggata agtggcgcaa 300
tatgagtgtg agtgctagtg gccaaaggttc aagggataag gtaaagactc caagagtaaa 360
agctattgcc tctctgcctt attcatcagt tactgctgaa tctacttctg tattctcaat 420
agaagcaaca acctcaacaa ctccagataa tcttatttcc cctaaaagtt catcaaattg 480
gaaaattcac tcaccaaggt acgatggat gatttttagaa gcccttacia gtatgcaaga 540
tccaaatggg atagacattg ccacaattgc aagtttcatg gaggagcgac atgaattgcc 600
ccccaaattc aagagggcgc ttggcacaaa gctaaggcgg ttggttgac aggaaaaggt 660
tataaagatt cgcaatagtt acaagctcaa agatatgaca tctacagaag tgacatctga 720
agtcttggga tctgcaattc caattgataa ttcaatgcaa tactctaag cattcaccaa 780
tacaattgat accttttcag tagatagagt aaatgaagct tcaatggctg ctgccca 836

<210> 537
<211> 478
<212> DNA
<213> Pinus radiata

<400> 537
atcacagtcg gcctctgatc aaagaagaag ccgaatcagg tgataattct gcaaattctg 60
cagatgtaga aactcttctt cctcaggttg atgaaacagc ttctgctgat ctgacagtgt 120
tcccaggttt tgttaccctt tatgtaccat acgggttccc catatggcac acttttagac 180
ccacaataac tcaaacttcc aatgtttata agccaacagc tgtaatgcca actgctccaa 240
taaaaatgga cgaatgcaca gggttatccc agttaagcct cggcgggtgt gcagcggctt 300
ctgcaatgaa acctcagaa ctgtcactca aattacatgg aagaccccc tctagacaat 360
cagcttttca ggccaaacca tctctcaatg aaagcagtag tttgagttcc agcagcaatg 420
tcacagtgat agtctgaatt gcaaggaaaa gcaggtgtga agaagatgat ggtatgga 478

<210> 538
<211> 565
<212> DNA
<213> Pinus radiata

<400> 538
cacatccata catgtggggg ggacagccgt tgatgccacc ttatgggact ccactaccat 60
atcctgcaat gtatccacat ggaggaatct atgcacatcc ttccatgcct ccgggtgcac 120
ttccgtatgg tcaatgga atgccatcac ctggcaatgc tgaagttaca acgactttag 180

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| cacttccaaa | tgctgaagca | gaagccaagt | cctcggaagg | caaagagcgg | aatacaatga | 240 |
| agagatcaaa | aggaagttta | ggaagccttg | gaatgattac | tggcaaagga | ggagaagggtg | 300 |
| gcaaggcaac | atcgggatct | gcaaagtagg | ccatgtcaca | aagtggggac | agtggcagtg | 360 |
| acggttcaag | cgaaggaagc | gaggaatata | acactcaaac | tgagtcacaa | gtggcgagaa | 420 |
| agagaagttt | tgatcaaata | atagtagatg | gagccaatgc | tcagagtacc | aatattcaat | 480 |
| catataattc | ccaggctgga | gaaccctatg | tgacttccgg | cgggcatgca | atgggtaatc | 540 |
| ccattagtca | agctgttgct | gcagt | | | | 565 |

<210> 539
 <211> 350
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|-----|
| <400> 539 | | | | | | |
| gggaaagtca | ccgccagtgg | gaaggtaact | tctggagtta | atgattttatt | ttgggaacag | 60 |
| tttctaacag | agactccggg | ctcagcaaca | gatacacaag | aagctgagtc | aaaaattcag | 120 |
| gagactagaa | ctaaggatca | agatgaaagg | ttgcctgaga | atgggaagtg | ttggagcaac | 180 |
| aagcagacat | tgatcaact | tacagaacag | atggggcagc | tggtcatcagg | gacgcaaact | 240 |
| tgaaataaga | ttatagaggc | tgctagttag | tgcatatcac | tgtagttct | gctaaaattt | 300 |
| ctgggttagca | atgggtcactg | tttatgtgtc | ctaatagaatt | gctccaaata | | 350 |

<210> 540
 <211> 479
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| <400> 540 | | | | | | |
| catatcattc | atatgaatat | ggatagcagg | caatcagggg | aagaggaaga | ctgcaacgtc | 60 |
| actcggccag | gaggaggagg | aggaatatca | ttacatgtta | gcagcgtgga | atattgccag | 120 |
| aagagtgtct | gtgttgccca | tgatatctct | tctgatgaac | aagatctgat | aaatagactt | 180 |
| cacaatcttc | tgggcgacag | gtgggcactg | attgcggggc | gccttccatg | gagaagaaga | 240 |
| gaggagattg | agaattactg | taaaatgaga | tacacagcca | ctacctcttc | ttcacgtctt | 300 |
| tgaatctccc | tttctctcgc | caggttatgg | agtgtggacc | aactatcgta | atcagatagt | 360 |
| ttgggttgat | tcagattgtt | taggtttatc | tccacttgaa | aatatgtgtg | gatatttggt | 420 |
| tgtttgtttt | atcaaaacca | agtatagaag | aaataaaaatt | tgatcgtttt | atcgatttta | 479 |

<210> 541
 <211> 580
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|-------------|------------|-------------|------------|-------------|-----|
| <400> 541 | | | | | | |
| agagagagaa | cgtggggagaa | aacctgcaaa | tgcccggtgaa | gaacctctga | atcatgttga | 60 |
| ggctgagcgg | caaaggcgtg | agaaattgaa | ccagaaattt | tatgagcttc | gtgccgtgggt | 120 |
| tcctaattgta | tcgaaaatgg | acaaagcttc | tctgctcggc | gatgctgctg | cttatatcaa | 180 |
| agatctcttt | tccaaacagc | aggatttgga | gtccgagagg | gttgatatgc | aggttcaaat | 240 |
| tgacactata | aagaaggaat | tattgatgaa | ttctttgaag | ttggcagcta | aagaagcaaa | 300 |
| agatctttca | agcattgacc | ttaaagggtt | tagccagggg | aaattccccg | gcttgaattc | 360 |
| agaagtctgc | attgttggcc | gagaggcgat | aataagaatt | cagtgtacta | aacataatca | 420 |
| tcctgttgcg | agactgatga | tagcactgca | agaacttgat | ttggaagttc | tccatgcaag | 480 |
| tatttctact | gtgaaggatt | ccttaattat | ccagacagtc | attgttaaaa | tgaccagagg | 540 |
| tttgtacacg | gaagaccaac | ttcacgccct | gctttgtaag | | | 580 |

<210> 542
 <211> 445
 <212> DNA
 <213> Pinus radiata

<400> 542
 caaaagcaag gagcaagaaa agcaaattgga tttgcatcaa ataattattgt aattgggggca 60
 gtaattattga agtccaaggg accagggggt tattaagggt atcgagtaaa gcctctgaat 120
 tttcaacctt gtagaaccta attgagtaaa acttcattca gttggattct catcgttttc 180
 atggcttaca accgcaaaca tgccgccgcc gcaaccagcc cggacagcag cctggggtca 240
 gacaacgagt ccggcggcgg aggaggaggc ggcgaggaggaa aagggcagtc gacgaagaat 300
 ggcaatggca actacattag agagcaggat cgcctgctcc ccatagcgaa cgtggggcgg 360
 ataattgaaac gggcgctgcc ggggaattgcg aaaatctcca aagacgcgaa ggagacggtg 420
 caggaatgtg tgtcggagtt catca 445

<210> 543
 <211> 682
 <212> DNA
 <213> Pinus radiata

<400> 543
 aattttttcc tgtcaaagca ctcgagaatt ggggtttgtg gaagattgct attgaaagat 60
 ctctgtgtgc aactctgagg tctgggatgg tgaaggaaac cttcgcgttg ttgaaagaca 120
 ataacaacaa caatcatgac gaaatattgc cttcgtcggg gaagcttcaa gggcggcaga 180
 cttatagctt gtaaaagtgt tgcccttagg gttttgccat tagtggtgca agcctgtaaa 240
 ttataatttg caggttccat ggccacgcgg aatccctttg acctgcttga ggatgatgat 300
 aatggcgacc cgtcgtcatt gctggacacc ctcgctgctg caaaggacaa gccggcggca 360
 gtggctgcca agaaacagca gccagcagtg tcggcgagcg gaaaactgcc gacgaaaccc 420
 cttcccccg cccaggctgt taaggaaatcg agggttttctc caaatgaggg gggcagggga 480
 cgagggtggc gtcgaggcgg ccgtggattt ggcaacagag aatcgagga gtttggacgt 540
 ggcctggggg gaggttataa tgttgaacgg aacttcaacc gcgagaacaa tgcctattcg 600
 ggttctcgtg ttgggttcta tgacaacaat tctgatttga tccccagccg caatgaggat 660
 ggagatggag cttcgaacga tc 682

<210> 544
 <211> 372
 <212> DNA
 <213> Pinus radiata

<400> 544
 gtttcctcaa ctagtgagt aacattcgtg aattcgttat gcaagtagct tgcggaaggg 60
 cacttctatc atgttattct tattccgagc tactgtcagc tatatgatgg acctgtgttt 120
 tcatcactgg ctcaattcac ctggttgagt atctgccatt tttggatgtt tgtgtaagct 180
 tggctaaata ccagagacac aaagaaaccg tcctgtagcc ggagttatcg aaactattta 240
 caatgccacg ggtgaaatta atttccagga acttcatgga catggtggca gcattaccgg 300
 ctgcaaagtt agatcggtt tatgataagt cattgcattt gcgaagcggg ctgaggtctc 360
 tgactcctgt gc 372

<210> 545
 <211> 444
 <212> DNA
 <213> Pinus radiata

<400> 545
 accgagtact gagtttcgaa gattttcata atacagcgag aatgaatttc aggcacttga 60
 aaagtatcgg aaaaggacgc aagcatagcc ctatgttgtt tgtccgagtc aaatgaagca 120
 ctgggattcg aatctttgat cacaaaatgg caaattatac ctttaagcat gcaggcccag 180
 ctcatatttt tcaactctacg aattccgttt actatttcat gaaccgggca tttatgggct 240
 acaagcgact tttattataa ggcttctttt ttctctttga ctttcatata gctgacatga 300
 atggcagaag agatggacac accgacaaaa acaacaaaga cgcctacatc acaggaacaa 360
 acttccacaa gcactcccggt ggcttatcct gagtgggctg caccaataca ggctctatat 420

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| atatttagcg | tttctattcc | tgcggaaggc | agcagcagct | ggtttgaaag | cagcagcagc | 120 |
| tgttttggaa | acaaaacaat | gtgtggaggt | gccattatca | aggaattcat | tccggccaat | 180 |
| cgatctcggc | gtgtaactgc | tagggagctg | tgcccggtat | tcgacacgtt | cgctgaattc | 240 |
| atcaatggcg | gagcaacgca | agaaacattc | aataaacctg | gcaagttgga | cgagggatgc | 300 |
| aagcagaaga | gtaagccag | caagggttct | gtcaagaccc | agcaggaatt | ttgttccggg | 360 |
| tttgaaggtg | ggagaagtga | ggtgattcct | cctttggaag | atgtggaagg | gtccacaccc | 420 |
| acgattgggg | ggaggaagag | aaaaaatggt | tacagaggta | tcagacagcg | tccatgggga | 480 |
| aaatgggctg | cggagattcg | agatcccagt | aagggggtta | gggtttggct | tggaacgttc | 540 |
| aacacggcag | aggaggccgc | caaggcctat | gatgcagcgg | ctaaaaggat | ccgaggtaag | 600 |
| aaagctaagc | taaattttgc | tgataactcg | tgttctgtta | aaaatgacac | tagcaagaaa | 660 |
| ttgtcaggaa | agaaaggaaa | gttgtgctca | aaacaccctg | ccttggtgtt | agaggggttc | 720 |
| aatgcaagct | gtaaggtaaa | accctcatat | tcagcaaatt | ctgatttatt | aggggggttac | 780 |
| aatataaaca | ggaaagtaaa | agcctctttg | agtgggtgctg | gcaaactctga | tcttacaatc | 840 |
| tgtggatacg | atgatatgga | atatgggtgac | tctgggttct | caaaaccag | tgccccattc | 900 |
| caaaacaatt | caaatgcatg | cacgggtccaa | ttttctgagc | atagcaattt | aaccctaaact | 960 |
| tcgcagaaat | cgtgctcttg | tgagatctgt | agtcacaatt | actcagagat | gagcaatgta | 1020 |
| atgcctcctg | ccttatggcaa | tgctgtaaat | tttgaaccag | tgcaaacttc | caatccagga | 1080 |
| ggttattttg | attctgacca | tagcagcatg | tcatttgaag | gggcgcattt | cccatgggct | 1140 |
| caagaaataa | agacgccaga | agt | | | | 1163 |

<210> 550

<211> 545

<212> DNA

<213> Pinus radiata

<400> 550

| | | | | | | |
|-------------|------------|-------------|------------|------------|-------------|-----|
| cagctaaaac | tcttcatccc | tgctgggatg | cataccagct | tgaggacgaa | agagcaagtg | 60 |
| ctgtttatat | aaatgtatth | tcgggggatg | ctacaactga | atttcccagt | gcattgcaac | 120 |
| tgggcagagg | agggattttg | gcagatgcca | tggggcttgg | taagactgtc | atgacaatat | 180 |
| cactactgct | tgcaaattct | ggcaaagggtg | gctttagtgg | tatggatact | gtggagccct | 240 |
| ttagtgcgaa | cagctgtagt | gaaaaaacaa | tcattcatcc | ttataatata | gggtgtagagc | 300 |
| tgggaccatc | acagtacacc | aacaaaacac | aaggcacaag | tatgctaagg | agatcaagca | 360 |
| gtggggttaca | taaaggaggc | gggaatctta | tagtatgtcc | tatgacatta | ttaagtcaat | 420 |
| ggaagacaga | acttgagacc | catgtacagt | ctggaaccat | gtccgtgtat | gttcattatg | 480 |
| gacaaagtag | aacaaaggat | gttaaaagtc | ttttgcagca | tgatgttgtc | ttgaccactt | 540 |
| atggg | | | | | | 545 |

<210> 551

<211> 353

<212> DNA

<213> Pinus radiata

<400> 551

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| gcactacaag | tctatacctc | ctccatctca | tgttataaat | accagttggc | ttctttctgg | 60 |
| tctcttttga | ttattgattg | gctggctgtt | ttctctcttc | tggaacctga | tcttcgggtc | 120 |
| tcacgatgat | cataatctct | acctctatct | ccatcggggc | ttcggttgct | ctgtatgttt | 180 |
| gtaggtatga | tgccgaagt | tggcagccca | acaagccagg | acagccgcaa | ctctgaggat | 240 |
| ggagaaagg | agaactgtgc | tgtgagagag | caagatagg | tcatgccc | tgctaagtgc | 300 |
| attaggataa | tgaggaaagt | tctaccacc | catgcaaaaga | tttctgatga | tgc | 353 |

<210> 552

<211> 448

<212> DNA

<213> Pinus radiata

<400> 552

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| caaacaatcc | gtgttttggg | agcggagagc | aacggggagg | ggtctttcat | gggttttgag | 60 |
|------------|------------|------------|------------|------------|------------|----|

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cagacgagag | gaggaggagg | aggtgcgaag | atgacgcagc | atcaggtggt | aactacggag | 120 |
| ttggtacggc | aggcaactga | gcgcttacga | aagctttgca | ggacgggagt | caaagtcgaa | 180 |
| ctcagagatt | tttttcaact | ctgcatcggt | ctcgccaagt | caattgattc | tgcggttgta | 240 |
| tataaccaa | ttccgactat | ggtgcatgag | ttgccacaat | tagtgagaca | ggtttttgaa | 300 |
| cgaaagatg | atattcgact | tcaaccagca | atcatgggtc | ttatgctctc | tgtgaagaat | 360 |
| gcttgctgaa | gtggttggtt | tcgtgtcacg | gacacagatg | aactgctaac | catgtcaaag | 420 |
| gagctgtcaa | gtcgttttac | gagtacgg | | | | 448 |

<210> 553
 <211> 883
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 553 | | | | | | |
| tttttattca | aatgacagca | cgacttcctt | tcctcagatg | tttcccaggc | tgcactcatc | 60 |
| agctgcagca | ccacgcggtt | ttggattctc | cctgttcttt | gttctgttgc | gttaaagatt | 120 |
| gggtgcaggt | cgaatcgccc | aggccgattt | gaattctcct | gaggattgac | aagatgacgc | 180 |
| gcaagtgtc | gcactgtggc | aacaacgggc | ataactccag | gacgtgccct | aaccgcggcg | 240 |
| gggtgaagct | cttcggcggt | cggcttaccg | atggcccgat | cagaaagagc | gctagtatgg | 300 |
| ggaatttgat | gatgatgtcc | aaccctagct | ctcccgtga | ccccctcgag | ccggcctctg | 360 |
| ccgctgtgc | tgcgcggcg | gcggcgcca | gtggctatct | ctctgatggg | cttgttgaag | 420 |
| cctccacttc | ctccaattct | cgcgagcgga | agaaagggtg | gccatggaca | gaggaggaac | 480 |
| atagaatgtt | tttgctaggt | ttgcagaagc | ttggcaaagg | tgattggaga | ggaatagcac | 540 |
| ggaattttgt | cataacacga | acacctacac | aggtagccag | ccatgcacag | aaatatttta | 600 |
| ttcgacagag | caatatgact | agaaagaaga | gacgttccag | tctgtttgac | atgacgccgg | 660 |
| tgagtttttt | cttcctgtct | taaattcttg | gtgtggtggg | catggaagg | attcaggagg | 720 |
| cgtcttgggc | aaagatccca | aaaattggat | ttgcaatcaa | tcattgattca | taattgttct | 780 |
| gaaaattatg | ctaagaacta | atctcatctt | tcaaacctca | aatggatttc | ttttgtttga | 840 |
| agttgtttct | aagtttcttt | aatgtctatt | cataatttca | ttt | | 883 |

<210> 554
 <211> 310
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 554 | | | | | | |
| gtgagttcta | ggcatgagtt | tgcagtatcg | caaatggcct | acttacaagc | tttgaggaat | 60 |
| gctggcgcaa | cccttagaca | atttgcagaa | ttagaatcaa | tggagcttca | gaagacttca | 120 |
| ccttaccac | atcttcgcca | ttatcggttc | accttgcccc | cttcacctcc | tcctcttccc | 180 |
| ccacctccac | cacctctctc | tccattgtct | ctcaccctct | ctcctagtta | tggatctgca | 240 |
| acttttctct | ccagcatccc | agtcaatcga | agcatctaca | gatgtccgta | tcagcaatgc | 300 |
| tcaccatcat | | | | | | 310 |

<210> 555
 <211> 463
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|-----|
| <400> 555 | | | | | | |
| gtcaacttcc | agatgaagct | attgctcttg | cagcagcatc | ccatattgag | agggagctgc | 60 |
| agataacatc | atggaatctg | agctgcaatt | ttgttgcttc | tactttgcag | ggctcgtgaat | 120 |
| gtattgagcg | cctggagatt | acagggattg | gagatccatc | aggacgggga | cttggtttta | 180 |
| gttatcttcg | agttgctcca | aagccaccaa | tatcgagtgc | tttggttaaa | aaaaaggcag | 240 |
| ctgctgcacg | tggtggttcc | gcagttactg | gtactgatgc | tgatctccga | aggttgagta | 300 |
| tggatgcagc | aagggagggtg | ttgctgaagt | ttaatgttga | cgaggaacaa | attgaaaaga | 360 |
| tgactagggtg | gcatcggatt | gcaatgggtga | gaaagctttc | aagtgcagaa | gctgcttcag | 420 |
| gcgttaaagt | agatgcaaca | gcattgaata | agtttgacgc | ggg | | 463 |

<210> 556
 <211> 496
 <212> DNA
 <213> Pinus radiata

<400> 556
 agatgagtg agtgagttcg gctcggagct gtgtcgaggt tttgttgggc agaggctgct 60
 ctgtggagcg gatcgctcgc cgtttgagtc gggtcgcaaa cgggcaattt gcgatgtgga 120
 atgtgcagaa ctgtggaagt aggggttaatg gaagacaatt gtgcttctga tgatcgggag 180
 catatagctt taatcgatta tacgtttgct ctttgtagt tcattgggtt atagtgttt 240
 cagtggagta gcgtgcagca gtttgatcgg cgaaaatgaa ggtccttca accagctgcc 300
 tttctcatcc agtggagggg gagcagaaga gcataaattc tgaactctgg catgcttgcg 360
 ctggaccctt tgtttccttg ccttcagtggt gtagtggtgt gtattatatt ccacaaggcc 420
 acagtgaaca ggttgagctt tctactcaga aggtagctga cacgcacatt ccaaattatc 480
 ctaatcttcc ttatca 496

<210> 557
 <211> 642
 <212> DNA
 <213> Pinus radiata

<400> 557
 cctcaaggta caatgggatg aaatatcagc aattgcacga ccagagagag tttccccgtg 60
 gaaattagaa ctttcattaa ctccagtggt agtgaatcct ctgccagtag ccaggggcaa 120
 gaggcctcgg ccaaataat tacccttcac ttccgattta tcagtgcatt acaaggcccc 180
 agtggattct actcaggtgc acaggtttcc aagggtcttg caaggtcaag aagttatgac 240
 cttgggggga tctttgggtg acggtgagtt ggagagtggt caaaagatgg ttgcatgggg 300
 cggatcaaaa ctggatgatg tcaaagcaga aggtatgggt tgtcaaagaa ggttggtttc 360
 agaaaattgg atgccgccac ttaggcatga ctactatat tcagatactt tctcaagttt 420
 tcaacctgtg ggggaagtgc aagaattccg tgggtcatta acaaatagta tcctggaaga 480
 tggccagcag ccaaagcttt caagaaaaca gtttcaggac caagagggtg aaattgtgga 540
 tggatcagga ctgtggtcaa tgagttttcc aaacagctta caattgtgag agtcaaatag 600
 gaagatgtct gcgacctctg ctgcccaatc gcacaagcag ag 642

<210> 558
 <211> 653
 <212> DNA
 <213> Pinus radiata

<400> 558
 ggaattgaca agtgatagtc acaggcaagc aacacttcag ttggaagctg aagttacagc 60
 gtggcacatc agtttctgta gcttgataaa aagtcaacag gattatattt gtgccctgta 120
 tgagtgggca cgtctaagtc ttgttcagct tgggaatgaa gcacagtggg aacgaggaaa 180
 ccgccacact atttatactc tttgtgatgt atggcaacaa gtacttaaaa gattgccaga 240
 caaggttgct tctgagtcca tcaaaagctt catctctggt gttcatgcta tagtgatgca 300
 gcaagctgat gaacaaaagc gcaagaagaa agcagaaaac atttctagag agctgcaaaa 360
 gaaaatgatt gctttgcgca atattgaaaa gaagtattat agttcgtatt caatacctgc 420
 tagggcagat gctacaacag agtctcaatt tgaattgggt cacacagatc ctttggcaga 480
 aaaaagagca gagattgaaa tatataaaaag gcggttagaa gacgaaaagg ccaactattc 540
 aaaatccgcc agaggaacca gagaaatgac cttaaataat attcaaacag gccttccagg 600
 tctattccaa gcaactgagta gtttttcaag tgtgtgtgca agttcctttg agg 653

<210> 559
 <211> 100
 <212> DNA
 <213> Pinus radiata

<400> 559
atggctatgg gggaggcgga gcggtacacg gggccatgga gtcccagga ggacacatcg 60
ctgcacaagc tgggtggagaa atctgggcca cggaactggt 100

<210> 560
<211> 385
<212> DNA
<213> Pinus radiata

<400> 560
gttggcgccc tgcaaaattc gccagaaatt tattgccgaa ttacttcaag cccaacaatt 60
tctcaagttt tgggtcgccaa ctaaatacat atgggtttcg gaagattgta ccagacagat 120
gggagttctc aaatgagttt tttcgcaagg gagaaaagca gctactttct gaaatacaca 180
gaagaaaagg tctaatacaa cctcctccac cacctgagaa cagatccatt tcaccgtcta 240
actctggtga tgagcaaacg tgggtcttcca cctcctctcc taactcttcc acgggggtgg 300
atgcccttag ccataagaat gcaattgaag aaaatgagaa actgagaaaag gaaaatctgt 360
tattggtatc tgagctgaca caaat 385

<210> 561
<211> 328
<212> DNA
<213> Pinus radiata

<400> 561
cccacatgga ctgcagcacc attcctccga tgatgctaatt ggcgatggcg ataagagaat 60
tgggggtggag acaggcagct ctgtatgtcc agagctctgg catgcctgtg ctggccctct 120
catatctctg cctcctaagg gcagtcgtgt tgtgtacttt cccaggggtc acctggagca 180
gattgcagac aatgagcttc acaggggtgg ccgtggctcc ttctcaaca tcaaccatgc 240
ggctgcaccg atggcagagg aagcatcttc tgcagcagcc ttgaatatac cgccatcggt 300
cataagtcag ccgtgaacca acagatgc 328

<210> 562
<211> 440
<212> DNA
<213> Pinus radiata

<400> 562
aggaaacgct cacgctctta aagattagat cagaaatgga ttctaagttc cgcaagcca 60
cccacaaagg tcccttatgg gacgaagtct caagggctct tgccgagcac gggtaccaga 120
gaagttccaa gaagtgccgg gagaaattcg agaattctta caaatactac aagaaaacaa 180
aagaaggcaa agcaggaagg caagacggaa agcattaccg tttcttttagc cagctcgaag 240
ctttgtacgg aggaacaact attgatgctg ccgacagttg ttttggcgta acaacacgga 300
caaattttaac cgaaagtcca ggcttggaact ttaacggaga cggagcctcg cagaaatacg 360
ctgacactca ccacaacagc gagggcttta gtttgtcttc ggattcttct tcggatgacg 420
agtacagtca cgatatacag 440

<210> 563
<211> 359
<212> DNA
<213> Pinus radiata

<400> 563
ggaaagtcga acatagaaat cttctgtgca ttcatagaat aaatattcta caggctgcac 60
tgtaatttag gcgagaaatc gaataaaata tacatttgtt tgtttacgat ggagttggca 120
gatgagcatt ccctcctccg ctataagaaa cccaagctct ccaagaatgt cgtttccgag 180
cgccgccgaa ggcagaaaat gaacaagctt ctctacactc tgagggctct ggttcccaat 240

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| atttccaaga | tggaacaaggc | atcgatttta | gcggacgcca | tcgaatatgt | ggagaagctg | 300 |
| aagcaacagg | tggaagagagc | tgagtctgac | gttcaatcca | ccaacgtctc | ggctctatc | 359 |

<210> 564
 <211> 249
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 564 | | | | | | |
| aggggaattca | acatcaatgc | tgatgtctat | gcacaggatt | ccattgagtt | gttgaagcag | 60 |
| agtgggattg | atttcgagaa | gaatgaggag | aagggtatcg | attcgcatcg | tttcggcgag | 120 |
| cttctcatgt | catcgggcgt | tgtgttgaac | gaaaatgtga | attggattac | cttccacagt | 180 |
| ggatatgact | ttgggtacct | gttgaaattg | ctgacatgcc | agaacctgcc | ccccgaggaa | 240 |
| tcggatttc | | | | | | 249 |

<210> 565
 <211> 542
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 565 | | | | | | |
| agaaggttg | aatggcttag | tccgctcatt | tgatggcgaa | cagatctttg | tggggaggtt | 60 |
| cagactttga | ttatgagaac | gaagccgata | cgaggaaggg | tccatggact | gtggaagagg | 120 |
| acatgcagct | tggtattgta | aatttgcacg | gagaaggacg | ctggaacttt | ctcgccagag | 180 |
| catctggcct | ccagagaact | ggtaagagct | gccggctaag | gtgggttaac | tatctccggc | 240 |
| ctgatctcaa | gcggagcaag | atcactcctg | aagaagaacg | tttgattatt | gaactccatc | 300 |
| gccgttgggg | aaataggtgg | tctcgtattg | cacaaagttt | accgggaagg | acggacaatg | 360 |
| aaatcaagaa | tttctggaga | actcgtatga | agggaaaact | aaactcagaa | actcagaagg | 420 |
| acatcgccgg | cgtggatgca | gacgacggag | tacagtttga | aagcgaattg | ggatcttgcc | 480 |
| gcctcccagt | tatttcatcc | catgcactgc | ctgaagtaga | cgttgcagag | ccttcgagta | 540 |
| ct | | | | | | 542 |

<210> 566
 <211> 358
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|-------------|-------------|-------------|-------------|-----|
| <400> 566 | | | | | | |
| gggacagtag | ggaggaagag | aagacgaatt | catcgatcca | gtattggtgt | aactgggtggc | 60 |
| agaggactac | ggcatttcag | catgaaagtt | tgtaagaaag | tggaagagcaa | gggctggaca | 120 |
| acatacaacg | aggttgcatc | tgaattagtg | gccgaatttg | tgaatccaaa | cagcacacat | 180 |
| ctttcacaag | atcagcaaca | gtttgatgag | aagaacatta | ggaggagggt | gtatgatgca | 240 |
| ctgaacgtac | tgatggccat | ggacataata | tcaaaggaga | aaaaggagat | tagatggaaa | 300 |
| gggctacct | caacaaatct | aagtgcacatt | gaacgggctaa | agactgagcg | aaagaggt | 358 |

<210> 567
 <211> 722
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 567 | | | | | | |
| atgccccga | gcatttgcca | gggcttacia | cttgaagacg | cacatggcca | ctcatgaccc | 60 |
| caaccgtctt | aaacctcatg | tgtgccctca | ccgctcgtgt | gcgcggtcat | ttagccgcaa | 120 |
| gcatgacctc | gggcgtcact | tggtcagcat | tcatcgtgac | gattccgtgg | tttctacgcc | 180 |
| ctctgcgtca | atgaagtcta | ttggtgtcga | cagtggccgc | aggagtgggt | gtgacaactg | 240 |
| cggcaaagga | acaatcggcg | catcgtgcca | gtgttcacgc | gccgatatca | agtagttgcg | 300 |
| gatcgcgttg | ctctgtttaa | acactatgcg | tatatgccat | gggcgagtat | atttcgccac | 360 |

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| acatagctgc | agccattggt | aggaccgata | tatttgattt | ccttggtgat | attgtgccta | 540 |
| gagatgaatt | caaggatgag | gggttgggtga | tccttagggc | tgcggtgccc | gtgcccttca | 600 |
| tgggtcctgg | ggataacgtg | ccatcttatt | actatgttgc | acagcaagct | cccaacgtgg | 660 |
| cggcttatgc | tcctcctact | cagcaaatga | ggtccaaagc | acccgcacct | cctcctcatg | 720 |
| gcagcagttg | a | | | | | 731 |

<210> 575
 <211> 441
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|--------------|-------------|------------|-------------|-------------|------------|-----|
| <400> 575 | | | | | | |
| cagggatcat | tgactctgcc | caggactcta | agtaggagga | ctgtcgacga | tgtgtggaga | 60 |
| gagattcata | aggaaaacat | tgatgggaat | gggaatgcgc | cggcgaatca | ggccaggcag | 120 |
| ccaactttcg | gagagatgac | attggaagat | ttcttgggtga | aagcaggggt | tgtgagagag | 180 |
| gatgcagagc | agggagatgg | gcagtcattt | ggggcgtttc | ggaatgctct | agatggggaa | 240 |
| ttttagtagcaa | atttggcaga | aagaaatggg | gataatagat | taggtatcgg | taattcactt | 300 |
| ggccttggat | ttgggtgaaag | agggcatagg | aatggagaag | tgggtagtaa | caagagtggg | 360 |
| gcagggggcg | tgcttggaact | ttctctgtct | cctactaatg | tcttcctaata | catgctgcca | 420 |
| tggatatggt | gaatcttgat | g | | | | 441 |

<210> 576
 <211> 271
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 576 | | | | | | |
| tttcaaagga | gaaaaaagaa | atccattgga | aggggttgcc | taaagacaag | tataaatgat | 60 |
| gttgaacagc | ttaaggctga | gaaattgctc | ttgaaaagta | ggattgagaa | gaaagcatct | 120 |
| tattttcacg | aactcgaaga | acagattata | ggccttcaaa | atctggtgaa | acgaaacgag | 180 |
| catagatata | gttcagggaa | tactccatct | gggggtgtat | cgttaccctt | catattggtc | 240 |
| cagactcatc | cccgtgccac | tggtgaaatt | g | | | 271 |

<210> 577
 <211> 315
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 577 | | | | | | |
| gggattcgca | gagctaccag | acagaaaagt | ggtattctat | cttcagttct | ttctaaccag | 60 |
| aatgcccata | tcagtgtgct | tgctgctgca | gctagtgtct | ttgccacaaa | gagcatgttt | 120 |
| catgttttct | acaatccaag | gacaagtcca | gcagagttca | ttatacctta | tcagaaatat | 180 |
| gtgaaaagtt | gcaagcaacc | attgtctatt | ggaatgcgct | tcaaaatgag | atttgaaaca | 240 |
| gaggataccg | ctgagagaag | gtacactggc | atgataactg | caataggtga | tgcatatcct | 300 |
| gctagatggc | ctggt | | | | | 315 |

<210> 578
 <211> 384
 <212> DNA
 <213> Pinus radiata

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 578 | | | | | | |
| caagataccc | actctgaacc | aatggctatg | gagatgggat | tagtcattga | cggagatagg | 60 |
| ttttcctcag | aggggtgatg | agatattatg | ttggatggcg | aggatctgtt | gccagaaatc | 120 |
| aacgatatgt | tttgggaaca | atttcttgca | gagagtgcaa | cgtcaggggg | aacggaagag | 180 |
| gctgagtctg | cagcgcagga | aagtcttacc | aaagatcagg | atgagaaacc | atctgaaaat | 240 |
| gggaattggt | ggaaaaaaa | tcaaaatatg | gataatctca | cggaaacagat | gggtcagctg | 300 |

gcatcagaat caaatccttg agatttgtat cttgggatag atgcatattg tggaggggaag 360
gatttccttt cccaatttgg ctacg 384

<210> 579
<211> 434
<212> DNA
<213> Pinus radiata

<400> 579
gcgatggagc tgttagggat gcagggaggg tagtgccctgc ccccttttctg gtgaagatgt 60
atcggttagt ggatgatccc tccacaaacc acatcgtttc ttgggggagag aataacaaca 120
gcttcgtggg atggcgcccc aaagagttct ctgcgtctgt gctgccatgc tatttcaacc 180
acgccaattt ctccagcttt gttcgacagc tcaataatta tggatttcga aagacatttc 240
gcgggcagtg cgagttttcg aacaaattat tgcagaaggg caagcagtat ctcctttgtc 300
atatccatag aagaagagcg tccaatagct cgcccatgcc gatggaatat ggtaaattcat 360
ctttattatt cccaatcatt ctacctacac aacactccaa tgttctggca gcgcctctgc 420
cttcttctct gtca 434

<210> 580
<211> 322
<212> DNA
<213> Pinus radiata

<400> 580
aaggaacgga tcttaaccga agagaacctt tttcttcgta aaaagtgtgg tgatgaacat 60
gtggattgtt cggcttttag aacacctcca gcacaactta gaagcatcca gaacattgat 120
gtggagactc aactggttat aagacctcca actgtacaac agcaccctga cgtcgatagt 180
cctcgataac tgttgcataat gcaaattttc tactttcatg aaataaacaac acagtacacc 240
tcattttgtt cgccttttgc aaacgtataa ttactactgc atatgtaagc tttcctctca 300
aaaaaaaaaa aaaaaaaaaa aa 322

<210> 581
<211> 448
<212> DNA
<213> Pinus radiata

<400> 581
aggatccaaa tgcgccaaaag aaagccatga ctggatttat gttcttttct caagttgaaa 60
gagagaatct gaaaaagagt gaccaggaa tggcatttac tgatgtggga agaacacttg 120
gagaacggtg gaaaaaaatg tcagctgagg agaaagctcc ttacgaatca aaagccaggg 180
ctgataagga aaggtacaag gaagcaatgg ccgattacaa aagtgggtcca acaaattgtg 240
actccgggaa tgaatctgat agtgaataga gcatcactac tacaagttca tattaacatg 300
gctagccgtg taaagtaatt gctttcattt aaatgctttc accctctggg gcaatctttt 360
tacattcact tgagaatatt gttgggtgtac ttcacattag caaaaagcaa gcttacaact 420
gagtagtgct gagggatata cctacatg 448

<210> 582
<211> 321
<212> DNA
<213> Pinus radiata

<400> 582
accttctttt tggagtcaac atagattcct cgtcttttgat tgttcctaata acagtatcaa 60
acatgaggag tattggcagc agtactgatg cagtcatgca atttggtggt tctaattatt 120
tgaatgcacc tccttgtgct tccggttcca atatttcatt gaattcagac atcagtgcct 180
ctgcatgttt agatgaaagt ggactttttac caccgctga aaatttggga cagatgaatg 240
cacctacaag aaccttcata aaggtttata agcaagggtc agtcgggaga tcgctagata 300

tctcacgctt cagcagttat c

321

<210> 583

<211> 739

<212> DNA

<213> Pinus radiata

<400> 583

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctgaattcta | tccggttggg | tattaaatta | agggtattgt | tgcgtacaga | cgttctgtgg | 60 |
| acaccgagtg | agtctcctag | ccttggaatt | tggcaccatc | tcgtcccgca | gccatttcag | 120 |
| ttcgatctcc | cgccgtcaca | aaaaataatc | cccaattctc | cagctgtccc | tgccgtgtct | 180 |
| gcacgcgaca | ggtctgcccc | ggctttggtc | tgtggaattt | catgccaatt | tatcacctat | 240 |
| aaactccacc | cgcatctgcc | cacaaacccc | acaagtcaca | cccctcttcg | tcttctttga | 300 |
| aatctcagat | gggttctgcc | aattagctcg | gatccttgcc | tcttcagttg | gttttgtgag | 360 |
| cacacacgag | gccaggaccc | gggtatcaac | gattccccct | aactgacgta | acccatggcg | 420 |
| accactcggc | atcagcgagc | tcccgatagc | agccccgcgt | cggaggatga | atcaggagcg | 480 |
| cacacgtaca | gcaaccagga | tggttccgtg | aaggaacagg | atcgatttct | gcccattgct | 540 |
| aatgtgagca | gaatcatgaa | gaaagccctt | ccagctaatt | ccaagatatc | gaaagatgcc | 600 |
| aaggagacgg | tgcaggaatg | cgtttcagag | ttcatcagtt | tcatcactgg | ggaagcctct | 660 |
| gacaagtgtc | agagggagaa | gaagaagacc | atcaatgggg | acgacctgct | gtgggcaatg | 720 |
| ggaactctag | ggtttgaaa | | | | | 739 |

<210> 584

<211> 413

<212> DNA

<213> Pinus radiata

<400> 584

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| aaatctgact | atcgggatag | tgatgatgaa | ggaggaggta | ctgttcgaga | aggaaaggat | 60 |
| ctgcaaacct | caaatttcat | cgattatttt | ggcacaagta | atcatacaga | agaagcagaa | 120 |
| aatgagcatg | atgcatcagt | ggataccaaa | gggcccctgg | aatccagcaa | tgaagtcggc | 180 |
| catcctacca | cataccccga | atcttcttca | ttgtcagcgc | aaggctctga | gcctcgagtt | 240 |
| ttttcctgta | attactgcca | gagaaaattc | tacagctcgc | aggccttagg | aggccatcag | 300 |
| aatgtctaca | agcgagaacg | caccttggca | aagagggggc | aaagaattgg | ggcttttcaa | 360 |
| cacagggtaca | taagcatggc | atccctgcct | ctccatggct | ctacagaatc | agc | 413 |

<210> 585

<211> 622

<212> DNA

<213> Pinus radiata

<400> 585

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| ggctctaggg | aaaagctttg | aaattatttg | ggtttgagtt | tagaggggtca | gaaggtggat | 60 |
| catttgagg | gactaatggt | tctgatcagc | cacaagatgg | gactaatata | ttaactgcag | 120 |
| gtgaagcatc | cactgagcca | gtggaggaag | aactagtgtg | tgaggccaaa | aatggagatt | 180 |
| cagggaaatt | agaagatgtg | ggtagtccag | tagaggctgg | agaaagtggg | agcactagca | 240 |
| attgcttggg | atcatctgct | caagaaaaatc | ggaaatatga | atgccaatac | tgttgcagag | 300 |
| agttttgcaa | ttcgcaggct | ctcggggggc | atcaaaatgc | gcacaaaaaa | gagagacagc | 360 |
| aggccaaacg | cgcgcacctg | ctggccacca | ggagcgctgc | tgcgagtggc | aacagaagtg | 420 |
| gcgccactgc | atgggtgcggg | aacataaacg | gtaacctcta | ccatagaaat | ttccttttca | 480 |
| ataattccta | cttcacacgc | atgcaggtgt | ttcaagaaga | tttcccgacc | tttcagaccc | 540 |
| cacaggctgt | tgcagctcca | tcaatcccgc | attatatctt | cagttaccag | cagcagcagc | 600 |
| aggcgcccgt | gcagagtcgc | tg | | | | 622 |

<210> 586

<211> 349

<212> DNA

<213> Pinus radiata

<400> 586

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| tgtaccggaa | aattccaaac | aaataatcaa | ccatggactc | atattgccgg | agatgggctc | 60 |
| agtggacagc | gggcgcgaag | gcacgagagc | aattttgtcc | gatgattgtg | tgaaattcga | 120 |
| atgccgatat | tgttgtaggg | ttttcccgac | gtctcaggct | ctcggcggcc | accagaacgc | 180 |
| ccataaacga | gaacggcgcc | gggcaatgac | gaggtttcag | agatcgccct | ctgacagttc | 240 |
| aaactattca | ggaaaacaga | atagtattga | tctgttttagc | cgtgagagag | ttcccgggtc | 300 |
| ttctctcctt | tcaccacacg | gtacgagggg | tcattgtgtt | tgcagtgc | | 349 |

<210> 587

<211> 368

<212> DNA

<213> Pinus radiata

<400> 587

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| aaaaaggcgt | cagaatgggg | tgagtctgta | gtaagtacaa | gcgaaaacag | taatgacttg | 60 |
| gattcctcta | cttattctga | aacctcttcc | cctgctcaag | gatctgatcc | tcgggttttc | 120 |
| ccctgtaatt | tctgtcaaag | caaattctac | agttctcaag | cattaggagg | tcatcaaaat | 180 |
| gcccataagc | gtgagagaac | tttggttaga | agggcacaga | gaatgggggtc | ttttgcacaa | 240 |
| agatattcaa | gcatggcatc | acttccactc | cacggttcct | cggaaacaag | ttggacgccc | 300 |
| agtcggtttt | tagggataaa | agcacattct | ttgattcaca | aacctttccc | tgaaggatgat | 360 |
| aacctgcc | | | | | | 368 |

<210> 588

<211> 516

<212> DNA

<213> Pinus radiata

<400> 588

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| ttcagatcta | taaatcaatg | tctgcattaa | tgacaaacta | agttgaaatt | cccaaattgtt | 60 |
| ggtggttact | atcttaggatc | ggacattagg | cgttgtggct | tcgggttcga | ttcacaaggc | 120 |
| atctctgttt | cggaatttca | aagcaacacg | tatcagaaaa | ctgattctat | actgtgatga | 180 |
| cgcaggctac | taactacaca | gcaggtagca | tcagagacga | tcaagaggag | caatgtgtga | 240 |
| ggaggggacc | ttggactggt | gatgaggaca | tgagccttat | tcgatgcgta | accacccggg | 300 |
| gtgaaggctg | atggaacaca | gtagccaaat | ttgcagggtc | aaagagaaca | ggaaagagct | 360 |
| gcagattgag | atggcttaat | tatcttcggc | ccgatgttaa | acgtggaaac | ataacgccgg | 420 |
| aagagcagct | attaatcctt | gaactccacc | gtctctgggg | taacagatgg | tccaagattg | 480 |
| cacggcaact | cccaggcagg | actgacaacg | aaatca | | | 516 |

<210> 589

<211> 340

<212> DNA

<213> Pinus radiata

<400> 589

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gagaactagt | ctcgaagttag | ttatttgatt | catattgggt | gcagaggatt | ttcagagatt | 60 |
| gatgatgagt | gctgaagctg | ctatggagag | ggagagtgtg | ttcatggatg | aaatgcgcag | 120 |
| gccgcagagg | aagaagaaga | ccgacgcaga | ggatgatttt | gacgagtgtt | attatactca | 180 |
| tatgtgcaag | atctgcaaga | agaagttcgt | ctcagggcgg | gcttttggcg | gtcatatgag | 240 |
| aattcatggc | cctgtggcca | ctgccgccgc | cgccgctgct | gagagcaatg | ggaaaaatct | 300 |
| ggagccgcag | aggaagagat | cccgtgctga | agagattcga | | | 340 |

<210> 590

<211> 391

<212> DNA

<213> Pinus radiata


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<400> 596
Gln Asn Gly Pro Ser Met Pro Pro Val Gln Pro Phe Val Arg Ala Glu
 1          5          10          15
Met Leu Pro Ser Gly Tyr Leu Val Arg Pro Cys Glu Gly Gly Gly Ser
          20          25          30
Ile Ile Arg Ile Val Asp His Leu Asp Leu Glu Pro Trp Ser Val Pro
          35          40          45
Glu Val Leu Arg Pro Leu Tyr Glu Ser Ser Thr Met Leu Ala Gln Lys
          50          55          60
Thr Thr Met Ala Ala Leu Arg Gln Leu Arg Gln Ile Ala Gln Glu Val
          65          70          75          80
Ser Gln Pro Asn Val Ser Gly Trp Gly Arg Arg Pro Ala Ala Leu Arg
          85          90          95
Ala Leu Ser Gln Arg Leu Ser Arg Gly Phe Asn Glu Ala Leu Asn Gly
          100          105          110
Phe Thr Asp Glu Gly Trp Ser Ile Met Gly Asn Asp Gly Ile Asp Asp
          115          120          125
Val Thr Ile Leu Val Asn Ser Ser Pro Asp Lys Leu Met Gly Leu Asn
          130          135          140
Leu Ser Phe Ser Asn Gly Phe Pro Ala Val Ser Asn Ala Val Leu Cys
          145          150          155          160
Ala Arg Ala Ser Met Leu Leu Gln Asn Val Pro Pro Ala Val Leu Leu
          165          170          175
Arg Phe Leu Arg Glu His Arg Ser Glu Trp Ala Asp Asn Ser Ile Asp
          180          185          190
Ala Tyr Ser Ala Ala Ala Val Lys Val Gly Ser Cys Ala Leu Pro Gly
          195          200          205
Ser Arg Ile Gly Ser Phe Gly Gly Gln Val Ile Leu Pro Leu Ala His
          210          215          220
Thr Ile Glu His Glu Glu Phe Leu Glu Val Ile Lys Leu Glu Gly Met
          225          230          235          240
Gly His Ser Pro Glu Asp Ala Leu Met Pro Arg Asp Ile Phe Phe Leu
          245          250          255
Gln Met Cys Ser Gly Val Asp
          260

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<210> 597

<211> 134

<212> PRT

<213> Eucalyptus grandis

```

<400> 597
Cys Pro Ile Asp Ser Gly Arg Ser Phe Asp Thr Ser Leu Ser Leu Gly
 1          5          10          15
Leu Gly Cys Tyr Gly Asp Pro Glu Asp His Glu Ile Lys Ile Lys Lys
          20          25          30
Pro Leu Ala Lys Leu Ser Gly Asn Ser Thr Cys Leu Thr Ile Gly Leu
          35          40          45
Pro Gly Gly Glu Ala Cys Gly Leu Gly Ser Ala Ser Gly Asp Glu Val
          50          55          60
Arg Asn Ile Pro Ser Arg Ser Ala Ser Ser Phe Ser Asn Ser Ser Ser
          65          70          75          80
Ala Lys Arg Glu Lys Ala Glu Gln Gly Glu Glu Glu Ala Val Glu Arg
          85          90          95
Gly Thr Gly Ser Pro Arg Ala Thr Ile Asn Ile Glu Asp Glu Asp Glu
          100          105          110

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Phe Ser Pro Arg Lys Lys Leu Arg Leu Ser Lys Ala Gln Ser Ser Ile
 115 120 125
 Leu Glu Glu Met Leu Gln
 130

<210> 598
 <211> 220
 <212> PRT
 <213> Eucalyptus grandis

<400> 598
 Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val
 1 5 10 15
 Ile Leu Ala Asp Tyr Thr Glu Phe Thr Gly Asn Phe Thr Ser Val Ala
 20 25 30
 Phe Gln Cys Leu Gln Lys Leu Pro Ala Thr Asn Asn Lys Phe Thr Tyr
 35 40 45
 Ser Cys Asp Gly His Thr Phe Asn Phe Leu Val Asp Asp Gly Phe Thr
 50 55 60
 Tyr Cys Val Val Ala Val Glu Ser Val Gly Arg Gln Val Pro Ile Ala
 65 70 75 80
 Phe Leu Glu Arg Val Lys Asp Asp Phe Thr Lys Arg Tyr Gly Gly Gly
 85 90 95
 Lys Ala Ala Thr Ala Val Ala Lys Ser Leu Asn Lys Glu Phe Gly Ser
 100 105 110
 Lys Leu Lys Glu Gln Met Gln Tyr Cys Val Asp His Pro Glu Glu Ile
 115 120 125
 Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser Glu Val Lys Gly Val
 130 135 140
 Met Met Glu Asn Ile Glu Lys Val Leu Asp Arg Gly Glu Lys Ile Glu
 145 150 155 160
 Leu Leu Val Asp Lys Thr Glu Asn Leu Arg Ser Gln Ala Gln Asp Phe
 165 170 175
 Arg Gln Gln Gly Thr Gln Ile Arg Arg Lys Met Trp Leu Gln Asn Met
 180 185 190
 Lys Ile Lys Leu Ile Val Leu Gly Ile Leu Ile Ala Leu Ile Leu Ile
 195 200 205
 Ile Val Leu Ser Ile Cys Gly Asn Gly Lys Cys Lys
 210 215 220

<210> 599
 <211> 149
 <212> PRT
 <213> Eucalyptus grandis

<400> 599
 Glu Glu Lys Lys Glu Glu Pro Pro Ala Pro Ile Thr Val Val Leu Lys
 1 5 10 15
 Val Gly Met His Cys Glu Ala Cys Thr Arg Val Leu Arg Lys Arg Ile
 20 25 30
 Arg Lys Ile Lys Gly Val Glu Thr Val Glu Thr Asp Val Val Asn Asp
 35 40 45
 Arg Val Ile Val Lys Gly Val Val Asp Pro Pro Lys Leu Val Ala Tyr
 50 55 60
 Val Lys Lys Arg Thr Gly Lys Gln Ala Ser Ile Val Lys Glu Glu Glu
 65 70 75 80
 Lys Lys Glu Glu Glu Lys Lys Glu Glu Ala Lys Lys Glu Glu Ser Lys

85 90 95
 Glu Gly Glu Lys Lys Asp Gly Glu Glu Gly Lys Asp Glu Asp Gly Ser
 100 105 110
 Lys Met Asp Ile Lys Lys Asn Glu Tyr Trp Pro Ser Arg Pro Tyr Met
 115 120 125
 Glu Tyr Gln Met Tyr Pro Thr Gln Ile Phe Ser Asp Glu Asn Pro Asn
 130 135 140
 Ala Cys Ser Val Met
 145

<210> 600
 <211> 107
 <212> PRT
 <213> Eucalyptus grandis

<400> 600
 Met Glu Phe Pro Ser Glu Phe Ser Glu Ala Ser Ser Gln Lys Arg Ile
 1 5 10 15
 Gly Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
 20 25 30
 Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 35 40 45
 Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
 50 55 60
 Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Arg Gly
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 Thr Ile Glu Arg Tyr Lys Lys Ala Ser Ser Asp Ser Ser His Pro Gln
 85 90 95
 Ser Val Ser Glu Val Asn Thr Gln Phe Tyr Pro
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<210> 601
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 <212> PRT
 <213> Eucalyptus grandis

<400> 601
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 Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala
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 Asn Glu Leu Thr Val Leu Gly Asp Pro Lys Val Ser Ile Ile Met Ile
 35 40 45
 Ser Ser Thr Gly Lys Leu His Glu Tyr Ile Ser Pro Ser Thr Ser Thr
 50 55 60
 Lys Lys Met Tyr Asp Gln Tyr Gln Gln Ala Leu Glu Val Asp Leu Trp
 65 70 75 80
 Ser Ser His Tyr Glu Lys Met Gln Glu Asn Leu Arg Lys Leu Lys Glu
 85 90 95
 Val Asn Lys Lys Leu Gln Leu Glu Val Arg Arg Arg Phe Gly Glu Gly
 100 105 110
 Leu Asn Gly Met Ser Leu Ser Glu Leu Cys Gly Leu Glu Gln Asp Met
 115 120 125
 Asp Asn Ala Val Ser Leu Ile Arg Glu Arg Lys Tyr Lys Thr Leu Gly
 130 135 140
 Asn Gln Ile Asp Thr Ala Arg Lys Lys Lys Lys Asn Ala Glu Glu Ile
 145 150 155 160

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Lys | Ser | Leu | Leu | Gln | Asp | Trp | Thr | Asn | Leu | Ile | Lys | His | Leu | Arg |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Glu | Asp | Asp | Pro | His | Phe | Gly | Met | Val | Asp | Asn | Gly | Arg | Asp | Tyr | Glu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Val | Ile | Gly | Tyr | Thr | Asp | Ala | Ala | Ala | Ala | Ala | Arg | Leu | Tyr | Thr |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Leu | Arg | Leu | Gln | Pro | Asp | Gln | Pro | Asn | Leu | Thr | Ser | Gly | Gly | Gly | Ser |
| | 210 | | | | 215 | | | | | | 220 | | | | |
| Glu | Ile | Thr | Thr | Tyr | Pro | Leu | Leu | Glu | | | | | | | |
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<210> 602
 <211> 113
 <212> PRT
 <213> Eucalyptus grandis

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| <400> 602 | | | | | | | | | | | | | | | |
| Met | Ser | Gln | Lys | Gly | Leu | Ile | Tyr | Ser | Phe | Val | Ala | Lys | Gly | Thr | Val |
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| Val | Leu | Ala | Glu | His | Thr | Gln | Phe | Ser | Gly | Asn | Phe | Ser | Thr | Ile | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Gln | Cys | Leu | Gln | Lys | Leu | Pro | Ser | Asn | Ser | Ser | Lys | Tyr | Thr | Tyr |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Cys | Asp | Gly | His | Thr | Phe | Asn | Phe | Leu | Thr | Asp | Ser | Gly | Phe | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Phe | Leu | Val | Val | Ala | Asp | Glu | Ser | Val | Gly | Arg | Ser | Val | Pro | Phe | Val |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Phe | Leu | Glu | Arg | Val | Lys | Asp | Asp | Phe | Met | Gln | His | Tyr | Ser | Ala | Ser |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ile | Ala | Ser | Gly | Asp | Pro | His | Pro | Leu | Ala | Asp | Asp | Asp | Glu | Asp | Asp |
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| Asp | | | | | | | | | | | | | | | |

<210> 603
 <211> 111
 <212> PRT
 <213> Eucalyptus grandis

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| <400> 603 | | | | | | | | | | | | | | | |
| Met | Gly | Arg | Gly | Arg | Val | Glu | Leu | Lys | Arg | Ile | Glu | Asn | Lys | Ile | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gln | Val | Thr | Phe | Ser | Lys | Arg | Arg | Asn | Gly | Leu | Leu | Lys | Lys | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Tyr | Glu | Leu | Ser | Val | Leu | Cys | Asp | Val | Glu | Val | Ala | Leu | Leu | Ile | Phe |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Ser | Arg | Gly | Lys | Leu | Tyr | Glu | Phe | Gly | Ser | Ala | Gly | Pro | Ser | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ile | Asn | Lys | Thr | Leu | Glu | Arg | Tyr | Gln | Arg | Asp | Asn | Phe | Thr | Pro | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asp | Asn | Val | Ala | Glu | His | Glu | Thr | Gln | Gln | Asn | Trp | Phe | Gln | Glu | Ile |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ser | Lys | Leu | Lys | Ala | Lys | Tyr | Glu | Leu | Phe | Asn | Lys | Leu | Gln | Lys | |
| | | | 100 | | | | | 105 | | | | | 110 | | |

<210> 604
 <211> 65

<212> PRT
 <213> Eucalyptus grandis

<400> 604

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| Leu | Leu | Gln | Lys | Ser | Ser | Gln | Glu | Glu | Asp | Lys | Ala | Arg | Leu | Val | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Thr | Gly | Leu | Gln | Leu | Thr | Gln | Ile | Asn | Asn | Trp | Phe | Ile | Asn | Gln |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Arg | Lys | Arg | Asn | Trp | His | Ser | Asn | Pro | Ser | Ser | Ser | Thr | Val | Pro | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Lys | Arg | Lys | Arg | Ser | His | Ala | Gly | Asp | Pro | Asp | Lys | Glu | Arg | Pro |
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| Met | | | | | | | | | | | | | | | |
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<210> 605
 <211> 60
 <212> PRT
 <213> Eucalyptus grandis

<400> 605

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| Cys | Ile | Glu | Thr | Lys | Ala | Arg | Phe | Gly | Lys | Ser | Val | Glu | Ser | Pro | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Asp | Lys | Trp | Lys | Val | Trp | Phe | Gln | Asn | Arg | Arg | Ala | Arg | Thr | Lys |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Leu | Lys | Gln | Thr | Ala | Val | Glu | Cys | Glu | Met | Leu | Gln | Lys | Cys | Cys | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Leu | Lys | Glu | Ala | His | Ser | Arg | Leu | Gln | Lys | Glu | | | | |
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<210> 606
 <211> 188
 <212> PRT
 <213> Eucalyptus grandis

<400> 606

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| Met | Ala | Phe | Ala | Gly | Thr | Thr | Gln | Lys | Cys | Met | Ala | Cys | Glu | Lys | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Tyr | Leu | Val | Asp | Lys | Leu | Thr | Ala | Asp | Asn | Arg | Ile | Tyr | His | Lys |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Ala | Cys | Phe | Arg | Cys | His | His | Cys | Lys | Gly | Thr | Leu | Lys | Leu | Gly | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Tyr | Asn | Ser | Phe | Glu | Gly | Val | Leu | Tyr | Cys | Arg | Pro | His | Phe | Asp | Gln |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Phe | Lys | Arg | Thr | Gly | Ser | Leu | Glu | Lys | Ser | Phe | Glu | Gly | Thr | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Lys | Ile | Ala | Lys | Pro | Glu | Lys | Pro | Val | Asp | Gly | Glu | Arg | Pro | Ala | Ala |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Thr | Lys | Ala | Ser | Ser | Met | Phe | Gly | Gly | Thr | Arg | Asp | Lys | Cys | Val | Gly |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Cys | Lys | Ser | Thr | Val | Tyr | Pro | Thr | Glu | Lys | Val | Thr | Val | Asn | Gly | Thr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Tyr | His | Lys | Ser | Cys | Phe | Lys | Cys | Thr | His | Gly | Gly | Cys | Val | Ile |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ser | Pro | Ser | Asn | Tyr | Val | Ala | His | Glu | Gly | Lys | Leu | Tyr | Cys | Arg | His |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| His | His | Thr | Gln | Leu | Ile | Lys | Glu | Lys | Gly | Asn | Leu | Ser | Gln | Leu | Glu |

115 120 125
Lys Val Thr Val Leu
130

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<211> 162
<212> PRT
<213> Eucalyptus grandis

<400> 610
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Arg Gln Val Thr Phe Ser Lys Arg Arg Gly Leu Ile Lys Lys Ala
20 25 30
Glu Glu Leu Ser Val Leu Cys Asp Ala Asp Val Ser Leu Ile Val Phe
35 40 45
Ser Ala Thr Gly Lys Leu Tyr Asp Phe Ser Ser Ser Arg Gln Met Lys
50 55 60
Gly Glu Asp Leu Glu Gly Leu Asn Val Glu Glu Leu Asp Gln Leu Glu
65 70 75 80
Lys Lys Leu Glu Ala Gly Leu Ser Leu Val Ile Lys Asn Lys Glu Glu
85 90 95
Lys Thr Trp Asn Glu Ile Asn Lys Leu Gln Arg Lys Glu Ala Gln Leu
100 105 110
Ile Lys Gln Asn Lys Gln Leu Lys His Glu Met Lys Met Ile Leu His
115 120 125
Gln Glu Lys Ser Val Thr Val Asn Ser Glu Ser Val Lys Asp Val Tyr
130 135 140
Ile Ser Arg Asn Ser Met Pro Pro Leu Asp Gly Asp Ser Pro Asn Pro
145 150 155 160
Ser Ser

<210> 611
<211> 43
<212> PRT
<213> Eucalyptus grandis

<400> 611
Met Met Ala Val Thr Ser Ala Cys Lys Asp Lys Met Gly Ile Asp Asn
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Gly Lys Tyr Val Arg Tyr Thr Pro Glu Gln Val Glu Ala Leu Glu Arg
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Leu Tyr His Glu Cys Pro Lys Pro Ser Ser Leu
35 40

<210> 612
<211> 226
<212> PRT
<213> Eucalyptus grandis

<400> 612
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Pro Thr Arg Phe Thr Gly Ser Gln Ile Ile Met Pro Leu Gly His Thr
20 25 30
Ile Glu His Glu Glu Met Leu Glu Val Ile Arg Leu Glu Gly His Ser

[illegible][illegible]

<211> 72

<213> Eucalyptus grandis

[illegible]

<211> 79

<212> PRT

<213> Eucalyptus grandis

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Arg | Gln | Val | Thr | Phe | Ala | Lys | Arg | Arg | Asn | Gly | Leu | Leu | Lys | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Tyr | Glu | Leu | Ser | Val | Leu | Cys | Asp | Ala | Glu | Val | Ala | Leu | Ile | Ile |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Ser | Thr | Arg | Gly | Lys | Leu | Tyr | Glu | Phe | Cys | Ser | Ser | Pro | Ser | Met |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Lys | Thr | Leu | Asp | Arg | Tyr | Gln | Lys | Cys | Ser | Tyr | Gly | Ser | Val | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Asn | Lys | Pro | Ser | Lys | Glu | Leu | Glu | Asn | Ala | Tyr | Arg | Glu | Tyr | |
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<211> 242

<212> PRT

<213> Eucalyptus grandis

[illegible]

<210> 624

<211> 360

<212> PRT

<213> Eucalyptus grandis

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| <400> 624 | | | | | | | | | | | | | | | |
| Met | Lys | Arg | Leu | Gly | Ser | Ser | Asp | Ser | Leu | Gly | Ala | Leu | Met | Ser | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Cys | Pro | Pro | Ser | Glu | Glu | Leu | Gln | His | Ser | Pro | Arg | Asn | Gly | Asn | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ile | Tyr | His | Ser | Arg | Asp | Leu | Gln | Ser | Met | Leu | Glu | Leu | Gly | Leu | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Glu | Gly | Cys | Val | Glu | Asp | Gln | Ser | Ala | Gly | Gly | Gly | Gly | His | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Gly | Glu | Lys | Lys | Arg | Arg | Leu | Ser | Ile | Asp | Gln | Val | Lys | Ala | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Lys | Asn | Phe | Glu | Val | Glu | Asn | Lys | Leu | Glu | Pro | Glu | Arg | Lys | Val |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Ala | Gln | Glu | Leu | Gly | Leu | Gln | Pro | Arg | Gln | Val | Ala | Val | Trp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Gln | Asn | Arg | Arg | Ala | Arg | Trp | Lys | Thr | Lys | Gln | Leu | Glu | Arg | Asp |
| | | 115 | | | | | 120 | | | | | 125 | | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Asp | Glu | Met | Asn | Ala | Ser | Val | Ser | Ser | Gln | Asn | Val | Ala | Gly | Phe | Ile | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Pro | Gly | Trp | Met | Leu | | | | | | | | | | | | |
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<210> 627
 <211> 50
 <212> PRT
 <213> Eucalyptus grandis

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| | | | | | | | | | | | | | | | | |
| Ala | Gly | Gly | Glu | Pro | Met | Trp | Ile | Ala | Gly | Pro | Asp | Gly | Ser | Ser | Ser | |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | | |
| Val | Leu | Asn | Glu | Asp | Glu | Tyr | Ile | Arg | Ala | Phe | Pro | Arg | Gly | Ile | Val | |
| | | 20 | | | | | | 25 | | | | 30 | | | | |
| Thr | Asn | Pro | Thr | Gly | Phe | Lys | Arg | Glu | Pro | His | Asp | Lys | Pro | Gly | Ser | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Ser | Ser | | | | | | | | | | | | | | | |
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<210> 628
 <211> 232
 <212> PRT
 <213> Eucalyptus grandis

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| | | | | | | | | | | | | | | | | |
| Leu | Gly | Thr | Gln | Ile | Pro | Ser | Gly | Ile | His | Met | Pro | Ser | Ala | Asn | Leu | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Ser | Ile | Ser | Phe | Leu | Gly | Pro | Ile | Pro | Met | Val | Ser | Gly | Asp | Gly | |
| | | 20 | | | | | | 25 | | | | 30 | | | | |
| Gly | Gly | Arg | Thr | Gly | Ser | Glu | Arg | Ser | Arg | Asn | Ala | Asp | Cys | Ala | Pro | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Ala | Gly | Phe | Pro | Gly | Gly | Asp | Glu | Asp | Val | Asn | Lys | Gly | Gly | Asp | Ile | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Pro | Tyr | Gly | Met | Ser | Thr | Ile | Val | Arg | Val | Ile | Pro | Asn | Ser | Arg | Tyr | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Arg | Val | Ala | Gln | Gln | Leu | Leu | Asp | Glu | Ile | Val | Asn | Val | Arg | Lys | |
| | | | | 85 | | | | 90 | | | | | | 95 | | |
| Ala | Leu | Lys | Arg | Ser | Asp | Asp | Ala | Asn | Asp | Gln | Ser | Arg | His | Glu | Asn | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Gln | Arg | Ser | Pro | Lys | Asp | Ala | Asp | Gly | Gly | Ser | Lys | Asn | Glu | Ala | Ser | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Ser | Asn | Pro | Gln | Glu | Ser | Ala | Ser | Asn | Ser | Ser | Glu | Leu | Ser | Ala | Ala | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Glu | Lys | Gln | Asp | Leu | Gln | Asn | Lys | Leu | Thr | Lys | Leu | Leu | Ser | Met | Leu | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Asp | Glu | Val | Asp | Lys | Arg | Tyr | Lys | Gln | Tyr | Tyr | His | Gln | Met | Gln | Ile | |
| | | | 165 | | | | | | 170 | | | | | 175 | | |
| Val | Val | Gln | Ser | Phe | Asp | Thr | Ile | Ala | Gly | Ser | Gly | Ala | Ala | Lys | Pro | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Tyr | Thr | Ala | Leu | Ala | Leu | Gln | Arg | Ile | Ser | Arg | His | Phe | Arg | Cys | Leu | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| His | Asp | Ala | Ile | Thr | Gly | Gln | Ile | Gln | Ala | Thr | Arg | Lys | Ser | Leu | Gly | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Glu | Gln | Asp | Thr | Ser | Thr | Glu | Thr | | | | | | | | | |
| 225 | | | | | | 230 | | | | | | | | | | |

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

[illegible]

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<210> 630
<211> 62
<212> PRT
<213> Eucalyptus grandis
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| Cys 1 | Trp | His | His | Val 5 | His | Thr | Gln | Cys | Gly 10 | Lys | Ala | Gly | Phe | Gly 15 | Met |
| Leu | Lys | Gln | Glu | Asn | Leu | Ser | Asn | Glu | Leu | Asp | Arg | Val | Lys | Lys | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asn | Asp | Asn | Leu | Gln | Ile | Gln | Leu | Arg | His | Leu | Arg | Gly | Arg | His | Asn |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Ile | Thr | Glu | Pro | Gln | Arg | Ala | Asp | Asn | Pro | Arg | Arg | His | Ser | | |
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<210> 631
<211> 113
<212> PRT
<213> Eucalyptus grandis
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[illegible]

<210> 632

<211> 393
 <212> PRT
 <213> Eucalyptus grandis

<400> 632

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| Met | Val | Glu | Gly | Glu | Arg | Asn | Gly | Asp | Asp | Asp | Gly | Ala | Ser | Gln | Gly |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Glu | Gln | Gln | Trp | Lys | His | Gln | Gln | Ala | Leu | Asp | Arg | Leu | Gly | Lys | Tyr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Arg | Tyr | Thr | Ala | Glu | Gln | Val | Glu | Ala | Leu | Glu | Arg | Val | Tyr | Ser |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Glu | Cys | Pro | Lys | Pro | Ser | Ser | Leu | Arg | Arg | Gln | Gln | Leu | Ile | Arg | Glu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Cys | Pro | Ile | Leu | Ser | Asn | Ile | Glu | Pro | Lys | Gln | Ile | Lys | Val | Trp | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gln | Asn | Arg | Arg | Cys | Arg | Glu | Lys | Gln | Arg | Lys | Glu | Ala | Ser | Arg | Leu |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Gln | Thr | Val | Asn | Arg | Lys | Leu | Thr | Ala | Met | Asn | Lys | Leu | Leu | Met | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Asn | Asp | Arg | Leu | Gln | Lys | Gln | Val | Ser | Gln | Leu | Val | Cys | Glu | Asn |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Gly | Tyr | Met | Arg | Gln | Gln | Leu | His | Thr | Thr | Ser | Ala | Thr | Thr | Thr | Asp |
| | | | | | | 135 | | | | | 140 | | | | |
| Ala | Ser | Cys | Asp | Ser | Val | Val | Thr | Thr | Pro | Gln | His | Ser | Leu | Arg | Asp |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ala | Asn | Asn | Pro | Ala | Gly | Leu | Leu | Ser | Ile | Ala | Glu | Glu | Thr | Leu | Ala |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Phe | Leu | Ser | Lys | Ala | Thr | Gly | Thr | Ala | Val | Asp | Trp | Val | Gln | Met |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Pro | Gly | Met | Lys | Pro | Gly | Pro | Asp | Ser | Val | Gly | Ile | Phe | Ala | Ile | Ser |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Gln | Ser | Cys | Ser | Gly | Val | Ala | Ala | Arg | Ala | Cys | Gly | Leu | Val | Ser | Leu |
| | | | | | 215 | | | | | 220 | | | | | |
| Glu | Pro | Thr | Lys | Ile | Val | Glu | Ile | Leu | Lys | Asp | Arg | Thr | Ser | Trp | Phe |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Arg | Asp | Cys | Arg | Ser | Leu | Glu | Val | Phe | Thr | Met | Phe | Pro | Ala | Gly | Asn |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Gly | Thr | Ile | Glu | Leu | Val | Tyr | Thr | Gln | Ile | Tyr | Ala | Pro | Thr | Thr |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Ala | Pro | Ala | Arg | Asp | Leu | Trp | Thr | Leu | Arg | Tyr | Thr | Thr | Thr | Leu |
| | | | 275 | | | | 280 | | | | | 285 | | | |
| Glu | Asn | Gly | Ser | Leu | Val | Val | Cys | Glu | Arg | Ser | Leu | Ser | Gly | Ser | Gly |
| | | | | | 295 | | | | | | 300 | | | | |
| Ala | Gly | Pro | Asn | Pro | Ala | Ser | Ala | Ala | Gln | Phe | Val | Arg | Ala | Glu | Ile |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Pro | Ser | Gly | Tyr | Leu | Ile | Arg | Pro | Cys | Glu | Gly | Gly | Gly | Ser | Ile |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ile | His | Ile | Val | Asp | His | Leu | Asn | Leu | Glu | Ala | Trp | Ser | Val | Pro | Glu |
| | | | 340 | | | | 345 | | | | | | 350 | | |
| Val | Leu | Arg | Pro | Leu | Tyr | Glu | Ser | Ser | Lys | Val | Val | Ala | Gln | Arg | Ile |
| | | | 355 | | | | 360 | | | | | 365 | | | |
| Thr | Ile | Ala | Ala | Leu | Arg | Tyr | Ile | Arg | Gln | Ile | Ala | Gln | Glu | Thr | Ser |
| | | | 370 | | | 375 | | | | | 380 | | | | |
| Gly | Glu | Val | Val | Tyr | Gly | Leu | Gly | Arg | | | | | | | |
| 385 | | | | | 390 | | | | | | | | | | |

<210> 633

<211> 84
 <212> PRT
 <213> Eucalyptus grandis

<400> 633
 Met Gly Ile Asp Asp Leu Cys Asn Thr Gly Leu Val Leu Ser Leu Gly
 1 5 10 15
 Leu Glu Thr Pro Phe Lys Ile Glu Ala Gln Arg Gln Ala Lys Gln Arg
 20 25 30
 Leu Asn Phe Glu Pro Ser Leu Thr Leu Cys Leu Ser Gly Thr Thr Lys
 35 40 45
 Ala Thr Arg Asp Glu Gln Pro Ala Asp His Leu Tyr Arg Gln Ala
 50 55 60
 Ser Pro His Ser His Asn Ser Leu Ser Ala Val Ser Ser Phe Ser Ser
 65 70 75 80
 Pro Arg Val Lys

<210> 634
 <211> 67
 <212> PRT
 <213> Eucalyptus grandis

<400> 634
 Glu Ser Gly Glu Ala Arg Arg Leu Arg Asp Ser Leu Val Glu Met Ala
 1 5 10 15
 Asn Val Gly Lys Ser Pro Ser Met Leu Thr Glu Cys Gly Leu Ala Glu
 20 25 30
 Asn Ser Leu Val Ser Ile Ala Glu Arg Val Thr His His Arg Trp Ser
 35 40 45
 Trp Ser Glu Val Lys Tyr Leu Ser Asp Cys His Leu Met Ala Leu Asp
 50 55 60
 Ala Ser Leu
 65

<210> 635
 <211> 103
 <212> PRT
 <213> Eucalyptus grandis

<400> 635
 Tyr Ser Glu Ala Ser Ser Asp Glu Gly Asn Gln Tyr Ser Thr Arg Glu
 1 5 10 15
 Glu Glu Gly Glu Ile Glu Glu Phe Glu Glu Asp Thr Tyr Ser Gly Ala
 20 25 30
 Pro Gly Ala Leu Pro Ile Asn Lys Asp Gln Ser Asp Glu Asp Val Pro
 35 40 45
 Ala Glu Glu Cys Asp Glu Tyr Pro Trp Thr Ser Glu Arg Thr Arg Asn
 50 55 60
 Asn His Leu Pro Glu Glu Ala Gly Phe Ser Gly Ser Ser Ala Asp Ser
 65 70 75 80
 Pro Arg Gly Ile Arg Met Ala Ser Pro Ser Ala Ser Ser Gln Lys Phe
 85 90 95
 Gly Ser Leu Ser Ala Leu Asp
 100

<210> 636

<211> 299
 <212> PRT
 <213> Eucalyptus grandis

<400> 636

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Phe | His | Asn | His | Leu | Ser | His | Gln | Asp | Leu | Ser | Ser | Leu | His |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| His | Phe | Ala | Ala | Asp | Gln | Gln | Pro | Pro | Pro | Pro | Gln | His | Gln | Gln | Gln |
| | | | 20 | | | | 25 | | | | | | 30 | | |
| Gln | Gln | His | Leu | Pro | Asp | Ser | Ser | Ser | Ser | Val | His | His | Gln | Leu | His |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| His | Ala | Ala | Gly | Pro | Asn | Trp | Leu | Asn | Thr | Ala | Leu | Leu | Arg | Ser | Asp |
| 50 | | | | | 55 | | | | | | 60 | | | | |
| Ala | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Gly | Gly | Asn | Ser | Phe | Leu | Asn |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Leu | His | Thr | Ser | Ser | Asp | Ser | Ala | Ala | Ser | Pro | Gln | Ala | Gln | Gln | Gln |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Pro | Pro | Ala | Thr | Ser | Ala | Ser | Ala | Ala | Ala | Gly | His | His | Gln | Trp | Leu |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Ser | Arg | Gln | His | Ser | Ser | Leu | Leu | Gln | Arg | Asn | His | Ser | Glu | Val | Ile |
| | 115 | | | | | 120 | | | | | | 125 | | | |
| Asp | Ala | Asp | Ser | Ile | Ile | Asp | Ser | Ala | Asp | Leu | Lys | Glu | Ser | Val | Ser |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Lys | Gly | Asp | Gly | Gly | Gly | Gly | Gly | Ala | Ala | Glu | Ser | Asn | Trp | Glu | Asn |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 |
| Ala | Lys | Tyr | Lys | Ala | Glu | Ile | Leu | Ala | His | Pro | Leu | Tyr | Glu | Gln | Leu |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Leu | Ser | Ala | His | Val | Ala | Cys | Leu | Arg | Ile | Ala | Thr | Pro | Val | Asp | Gln |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Leu | Pro | Arg | Ile | Asp | Ala | Gln | Leu | Ala | Gln | Ser | Gln | His | Val | Val | Ala |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Lys | Tyr | Ser | Ala | Met | Ser | Gln | Gly | Leu | Val | Ala | Asp | Asp | Lys | Glu | Leu |
| 210 | | | | | 215 | | | | | | 220 | | | | |
| Asp | Gln | Phe | Met | Thr | His | Tyr | Val | Leu | Leu | Leu | Cys | Ser | Phe | Lys | Glu |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 |
| Gln | Leu | Gln | Gln | His | Val | Arg | Val | His | Ala | Met | Glu | Ala | Val | Met | Ala |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Cys | Trp | Glu | Ile | Glu | Gln | Ser | Leu | Gln | Ser | Leu | Thr | Gly | Val | Ser | Pro |
| | | | 260 | | | | 265 | | | | | | 270 | | |
| Gly | Glu | Gly | Thr | Gly | Ala | Thr | Met | Ser | Asp | Asp | Glu | Asp | Asp | Gln | Val |
| | 275 | | | | | 280 | | | | | | 285 | | | |
| Asp | Ser | Asp | Ala | Asn | Leu | Phe | Asp | Gly | Ser | Leu | | | | | |
| 290 | | | | | | 295 | | | | | | | | | |

<210> 637
 <211> 91
 <212> PRT
 <213> Eucalyptus grandis

<400> 637

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Arg | Arg | Lys | Ile | Glu | Ile | Gln | Pro | Ile | Thr | His | Glu | Arg | Asn |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Arg | Ser | Val | Thr | Phe | Leu | Lys | Arg | Lys | Asn | Gly | Leu | Phe | Lys | Lys | Ala |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Tyr | Glu | Leu | Gly | Val | Leu | Cys | Ser | Val | Asp | Val | Ala | Val | Ile | Ile | Phe |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Glu | Asp | Arg | Pro | Gly | His | Ser | Pro | Lys | Leu | Tyr | Gln | Tyr | Ser | Ser | Arg |

50 55 60
 Gly Ile Gln Asp Ile Val Gln Arg His Leu His His Asp Gly Glu Thr
 65 70 75 80
 Asp Asn Arg Gly Pro Gly Asp Phe Ser Gly Ala
 85 90

<210> 638
 <211> 129
 <212> PRT
 <213> Eucalyptus grandis

<400> 638
 Met Phe Ser Thr Gly Glu Tyr Ser Ala Ala Ala Phe Glu Gly Met Asp
 1 5 10 15
 Ser Leu Pro Ser Pro Arg Lys Lys Lys Asn Gln Leu Val Asn Arg Arg
 20 25 30
 Arg Phe Ser Asp Glu Gln Ile Arg Ser Leu Glu Ser Ile Phe Glu Ser
 35 40 45
 Glu Ser Arg Leu Glu Pro Arg Lys Lys Leu Gln Leu Ala Arg Glu Leu
 50 55 60
 Gly Leu Gln Pro Arg Gln Val Ala Ile Trp Phe Gln Asn Lys Arg Ala
 65 70 75 80
 Arg Trp Lys Ser Lys Gln Leu Glu Arg Asp Phe Ala Ile Leu Arg Ala
 85 90 95
 Asn Tyr Asn Ala Leu Tyr Ser Arg Phe Glu Ser Leu Lys Lys Glu Lys
 100 105 110
 Gln Ser Leu Val Thr Gln Ile Glu Lys Leu Asn Gln Leu Val Glu Lys
 115 120 125
 Pro

<210> 639
 <211> 101
 <212> PRT
 <213> Eucalyptus grandis

<400> 639
 Met Leu Tyr Arg Gly Gly Met Arg Thr Pro Asn Ala Gln Gln Ile Glu
 1 5 10 15
 Gln Ile Thr Ala Gln Leu Ser Lys Tyr Gly Lys Ile Glu Gly Lys Asn
 20 25 30
 Val Phe Tyr Trp Phe Gln Asn His Lys Ala Arg Glu Arg Gln Lys Gln
 35 40 45
 Lys Arg Asn Ser Leu Gly Leu Ser His Cys Ser Arg Thr Pro Thr Thr
 50 55 60
 Ala Ala Thr Ile Ala Thr Val Thr Leu Asn Thr Thr Lys Val His Arg
 65 70 75 80
 Thr Ile Leu Pro Tyr Phe Phe Pro His Ser Gly Ile Gly Val Arg Ala
 85 90 95
 Leu His Asp Ala Cys
 100

<210> 640
 <211> 85
 <212> PRT
 <213> Eucalyptus grandis

Tyr Cys Val Val Ala Ala Glu Ser Ala Gly Arg Gln Ile Pro Ile Ala
 65 70 75 80
 Phe Leu Glu Arg Ile Lys Asp Asp Phe Asn Lys Arg Tyr Gly Gly Gly
 85 90 95
 Lys Ala Thr Thr Ala Ala Ala Asn Ser Leu Asn Arg Glu Phe Gly Pro
 100 105 110
 Lys Leu Lys Glu His Met Gln Tyr Cys Val Asp His Pro Glu Glu Ile
 115 120 125
 Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser Glu Val Lys Gly Val
 130 135 140
 Met Met Glu Asn Ile Glu Lys Val Leu Asp Arg
 145 150 155

<210> 643
 <211> 54
 <212> PRT
 <213> Eucalyptus grandis

<400> 643
 Glu Trp Trp Ser Val His Asn Lys Trp Pro Tyr Pro Thr Glu Ala Asp
 1 5 10 15
 Lys Ile Ala Leu Ala Lys Ser Thr Gly Leu Asp Gln Lys Gln Ile Asn
 20 25 30
 Asn Trp Phe Ile Asn Gln Arg Lys Arg His Trp Lys Pro Ser Glu Ile
 35 40 45
 Thr His Tyr Lys Val Ile
 50

<210> 644
 <211> 308
 <212> PRT
 <213> Eucalyptus grandis

<400> 644
 Met Ala Met Gln Thr Gly Ile Gly Leu Ser Lys Ile Leu Val Leu Ala
 1 5 10 15
 Gly Ala Gly Tyr Thr Gly Thr Ile Leu Phe Gln Asn Gly Lys Leu Ser
 20 25 30
 Asp Leu Leu Gly Glu Leu Gln Gly Leu Val Lys Gly Leu Glu Lys Ser
 35 40 45
 Gly Ser Gln Ser Asp Gly Asp Lys Asp Tyr Ser Asp Ala Val Ala Ala
 50 55 60
 Gln Val Arg Arg Leu Ala Met Glu Val Arg Gln Leu Ala Ser Ala Arg
 65 70 75 80
 Gln Ile Thr Val Leu Asn Gly Asn Ser Ser Gln Met Gly Asn Leu Thr
 85 90 95
 Asn Met Val Val Pro Ala Ala Thr Leu Gly Ala Leu Gly Tyr Gly Tyr
 100 105 110
 Met Trp Trp Lys Gly Leu Ser Phe Ser Asp Leu Met Tyr Val Thr Lys
 115 120 125
 Arg Gly Met Ala Asn Cys Val Ala Asn Leu Thr Gln His Leu Glu His
 130 135 140
 Val Ser Glu Ala Leu Asn Ser Val Lys Lys His Leu Thr Gln Arg Ile
 145 150 155 160
 Glu Asn Leu Asp Gly Lys Met Asp Asp Gln Arg Glu Leu Ser Lys Glu
 165 170 175
 Ile Lys Asn Glu Val Ser Ser Val Lys Ala Asn Leu Asp Gly Leu Gly

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | 180 | | | | | 185 | | | | 190 | | | |
| Asp | Asp | Leu | Asp | Phe | Leu | Gln | Arg | Met | Val | Ser | Gly | Leu | Asp | Val | Arg |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Met | Gly | Ser | Leu | Glu | Tyr | Lys | Gln | Asp | Trp | Ala | Asn | Glu | Gly | Val | Arg |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Tyr | Leu | Cys | Gly | Val | Ala | Ser | Gly | Gln | Lys | Val | Glu | Met | Pro | Lys | Met |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Leu | Gln | Glu | Gln | Ile | Lys | Ile | Ser | Gly | Thr | Ser | Arg | Gly | Leu | Leu | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Tyr | Gln | Asp | Thr | Pro | Ser | Leu | Lys | Gly | Leu | Lys | Glu | Ile | Ala | Asp | Ala |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Thr | Leu | Ser | Ile | Asp | Arg | Ser | Ala | Ser | Asp | Ala | Val | Val | Gln | Asp |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Gly | Val | Glu | Arg | Leu | Asn | Gly | Lys | Pro | Lys | Pro | Leu | Pro | Arg | Ala | Ser |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ser | Thr | Thr | Cys | | | | | | | | | | | | |
| 305 | | | | | | | | | | | | | | | |

<210> 645
 <211> 197
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| Met | Glu | Glu | Tyr | Gly | Gln | Met | Asn | Glu | Asn | Ser | Ser | Thr | Gly | Ser | Arg |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Gly | Asn | Asn | Ser | Phe | Leu | Tyr | Ala | Ser | Pro | Val | Leu | Gly | Pro | Ser | Ser |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Ser | Gly | Asn | Ser | Asn | Tyr | Gly | Arg | Gly | Asn | Ser | Ser | Gly | Gly | His | Phe |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Tyr | Ser | Gln | Ser | Gly | Asp | His | Cys | Phe | Gln | Ser | Glu | Ala | Pro | Pro | His |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Pro | Val | Val | Lys | Thr | Glu | Ala | Thr | Thr | Ser | His | His | Gly | His | Ala | Gln |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Lys | Phe | His | His | Tyr | Ser | Leu | Val | Arg | Asp | His | His | Asp | Pro | Ser | Ala |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ser | His | His | His | His | His | Gln | His | His | Gln | His | Gln | Gln | Leu | Gln | Thr |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Ala | Ser | Glu | Ser | Ser | Arg | Glu | Val | Asp | Ala | Met | Lys | Ala | Lys | Ile | Ile |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Ala | His | Pro | Gln | Tyr | Ser | Asn | Leu | Leu | Glu | Ala | Tyr | Met | Asp | Cys | Gln |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Lys | Val | Gly | Ala | Pro | Pro | Glu | Val | Val | Ala | Lys | Leu | Ser | Val | Ala | Arg |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 |
| Gln | Glu | Phe | Glu | Ser | Arg | Gln | Arg | Ser | Ser | Val | Ala | Ser | Ala | Asp | Gly |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Ser | Lys | Asp | Pro | Glu | Leu | Asp | Gln | Phe | Met | Glu | Ala | Tyr | Tyr | Asp | Met |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Leu | Val | Lys | Tyr | Arg | | | | | | | | | | | |
| 195 | | | | | | | | | | | | | | | |

<210> 646
 <211> 304
 <212> PRT
 <213> Eucalyptus grandis

<400> 646

Glu Glu Gly Glu Asp Glu Gln Val Leu Gln Pro Lys Ile Lys Arg Lys
 1 5 10 15
 Arg Ser Leu Arg Val Arg Pro Arg His Thr Met Glu Arg Pro Glu Glu
 20 25 30
 Lys Ser Ser Asn Gly Ala Leu Pro Val Gln Cys Gly Asp Ser Ala Phe
 35 40 45
 Leu Pro Leu Gln Met Asp His Lys Tyr Gln Pro Gln Ser Arg Thr Ala
 50 55 60
 Ser Glu Thr Asn Pro Phe Gly Glu Pro Thr Ala Ser Lys His Gly His
 65 70 75 80
 Gly Gly Pro Ser Met Lys Ser Lys Arg Gln Thr Ser Leu Arg Arg Ile
 85 90 95
 Asn Asp Pro Ser Lys Leu His Pro Leu Pro Lys Ser Ser Arg Ser Asn
 100 105 110
 His Ile Ser Ser Asp Ala Ala Glu Arg Ser Arg Glu Asn Trp
 115 120 125
 Asn Gly Arg Val Ala Asn Pro Ser Gly Asn Ser Ser Val Gly Ala Gly
 130 135 140
 Leu Ser Glu Ile Ile Gln Arg Lys Cys Lys Asn Val Val Ser Lys Leu
 145 150 155 160
 Gln Arg Arg Ile Asp Lys Glu Gly His His Ile Val Pro Leu Leu Thr
 165 170 175
 Asp Leu Trp Lys Arg Met Gly Ser Pro Gly His Met Gly Gly Val Gly
 180 185 190
 Ser Asn Leu Leu Asp Leu Arg Lys Ile Asp Gln Arg Ile Glu Lys Leu
 195 200 205
 Glu Tyr Gly Asp Val Met Asp Leu Val Leu Asp Val Gln Leu Met Leu
 210 215 220
 Lys Gly Ala Met Gln Phe Tyr Gly Phe Ser His Glu Val Arg Ser Glu
 225 230 235 240
 Ala Arg Lys Val His Asp Leu Phe Phe Asp Ile Leu Lys Ile Ala Phe
 245 250 255
 Pro Asp Thr Asp Phe Glu Glu Val Arg Asn Ala Leu Ser Phe Ser Gly
 260 265 270
 Pro Gly Ala Ala Ser Gln Ser Ala Pro Ser Pro Lys Gln Ala Ser Ala
 275 280 285
 Gly Gln Ser Lys Arg His Arg Ala Leu Asn Glu Val Asp Ala Asp Lys
 290 295 300

<210> 647

<211> 166

<212> PRT

<213> Eucalyptus grandis

<400> 647

Val Val Gly Lys Ala Leu Gln Lys Cys Ala Lys Ile Ser Thr Asp Leu
 1 5 10 15
 Lys Lys Ala Leu Tyr Gly Ser Ser Val Ala Ser Cys Glu His Tyr Ser
 20 25 30
 Glu Val Glu Ala Ser Ser Asn Arg Ile Val Thr Gln Asp Asp Val Asp
 35 40 45
 Ala Ala Cys Gly Ala Asp Asp Thr Asp Phe Gln Pro Val Leu Lys Pro
 50 55 60
 Tyr Gln Leu Val Gly Val Asn Phe Leu Leu Leu Leu His Arg Lys Gly
 65 70 75 80
 Val Gly Gly Glu Gly Gln Gly Val Leu Lys Tyr Asp Thr Ser Leu Ala
 85 90 95

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Gly | Ala | Ser | Leu | Tyr | Ser | Met | Gln | Ala | Ile | Leu | Ala | Asp | Glu | Met |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Leu | Gly | Lys | Thr | Ile | Gln | Ala | Ile | Thr | Tyr | Leu | Thr | Leu | Leu | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Leu | Asn | Asn | Asp | Pro | Gly | Pro | His | Leu | Val | Val | Cys | Pro | Ala | Ser |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Leu | Leu | Glu | Asn | Trp | Glu | Arg | Glu | Leu | Lys | Arg | Trp | Cys | Pro | Ser | Phe |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ser | Val | Leu | Gln | Tyr | His | | | | | | | | | | |
| | | | | 165 | | | | | | | | | | | |

<210> 648

<211> 142

<212> PRT

<213> Eucalyptus grandis

<400> 648

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Met | Val | Asp | Asp | His | Ala | Leu | Cys | Leu | Ser | Cys | Asn | Cys | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Asn | Ile | Leu | Ala | Cys | Cys | Asn | Cys | Ser | Tyr | Pro | Lys | Asp | Ser | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | His | Met | Leu | Ala | Lys | Gln | Ala | Gly | Leu | Thr | Arg | Ser | Gln | Val | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asn | Trp | Phe | Ile | Asn | Ala | Arg | Val | Arg | Leu | Trp | Lys | Pro | Met | Val | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Met | Tyr | Leu | Glu | Glu | Thr | Lys | Ser | Arg | Glu | Gln | Ala | Gly | Ser | Glu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asn | Gly | Thr | Thr | Arg | Arg | Ala | Ala | Thr | Lys | Ser | Asn | Lys | Asp | Ala | Ala |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gly | Leu | Lys | Ser | Ala | Ser | Gln | Glu | Asp | Asn | Ala | Phe | Gly | Met | Asn | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Ile | Lys | Ser | Phe | Gln | Ser | Ser | Pro | Asn | Lys | Ala | Leu | Asn | Gln | Ala |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ile | Ser | Pro | Ser | Glu | Asn | Ser | Asn | Ser | Thr | Ser | Ser | Thr | | |
| | 130 | | | | | 135 | | | | | 140 | | | | |

<210> 649

<211> 131

<212> PRT

<213> Eucalyptus grandis

<400> 649

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ala | Pro | Ala | Ser | Gly | Gln | Ser | Ser | His | Ala | Leu | Gln | Val | Glu | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Arg | Asp | Ser | Pro | Leu | Gly | Phe | Val | Val | Lys | Val | Glu | Asp | Arg | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ser | Gly | Ser | Gly | Gly | Ser | Ala | Val | Val | Asp | Glu | Asp | Gly | Pro | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Val | Asp | Ser | Gly | His | Ser | Tyr | Phe | His | Cys | Asn | Asp | Tyr | Pro | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Leu | Val | Ala | Val | Asn | Gly | Leu | Gln | Ser | Glu | Asp | Asp | Gly | Ser | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asp | Ser | Arg | Gly | Tyr | Cys | Ser | Glu | Ile | Phe | Ala | Ala | Ala | Glu | Glu | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| His | Gln | Glu | Gly | Gly | Val | Pro | Asn | Gly | Val | Val | Gly | Val | Ala | Leu | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Gly | Phe | Arg | Leu | Leu | Val | Cys | Ser | Arg | Lys | Trp | Phe | Lys | Ser | Asn |

115 120 125
Met Cys Ser
130

<210> 650
<211> 152
<212> PRT
<213> Eucalyptus grandis

<400> 650
Ser Arg Leu Gln Ala Val Asn Arg Lys Leu Thr Ala Met Asn Lys Leu
1 5 10 15
Leu Met Glu Glu Asn Asp Arg Leu Gln Lys Gln Val Ser Gln Leu Val
20 25 30
Tyr Glu Asn Ser Tyr Phe Arg Gln Gln Thr Gln Asn Ala Thr Leu Ala
35 40 45
Thr Thr Asp Thr Ser Cys Glu Ser Val Val Thr Ser Gly Gln His His
50 55 60
Leu Thr Pro Gln His Pro Pro Arg Asp Ala Ser Pro Ala Gly Leu Leu
65 70 75 80
Ser Ile Ala Glu Glu Thr Leu Thr Glu Phe Leu Ser Lys Ala Thr Gly
85 90 95
Thr Ala Val Glu Trp Val Gln Leu Pro Gly Met Lys Pro Gly Pro Asp
100 105 110
Ser Ile Gly Ile Ile Ala Ile Ser His Gly Cys Thr Gly Val Ala Ala
115 120 125
Arg Ala Cys Gly Leu Val Gly Leu Glu Pro Ser Arg Val Ala Glu Ile
130 135 140
Leu Lys Asp Arg Pro Ser Trp Tyr
145 150

<210> 651
<211> 151
<212> PRT
<213> Eucalyptus grandis

<400> 651
Asp Asp Val Cys Gly Gly Gly Lys Arg Pro Glu Arg Pro Phe Phe Cys
1 5 10 15
Thr Tyr Asp Gly Glu Glu Asn Gly Asp Asp Asp Tyr Asp Glu Tyr Leu
20 25 30
His Gln Pro Glu Lys Lys Arg Arg Leu Ser Ile Glu Gln Val Leu Tyr
35 40 45
Leu Glu Lys Ser Phe Glu Thr Asp Asn Lys Leu Glu Pro Asp Lys Lys
50 55 60
Val Gln Leu Ala Lys Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Ile
65 70 75 80
Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Met Glu Lys
85 90 95
Asp Phe Asp Lys Leu Gln Ala Ser Phe Asn Cys Leu Lys Ser Asp Tyr
100 105 110
Glu Ser Leu Leu Asn Glu Lys Glu Lys Leu Lys Ala Glu Val Ile His
115 120 125
Leu Thr His Gln Leu Glu Gln Arg Ser Asn Gly Ile Leu Asn His Ser
130 135 140
Thr Tyr Leu Asn Asn Cys Thr
145 150

<210> 652
 <211> 85
 <212> PRT
 <213> Eucalyptus grandis

<400> 652
 Thr Ala Lys Leu Lys Ser Ser Ile Phe Leu Leu Pro Leu His Gln Arg
 1 5 10 15
 Leu Ile Leu Lys Lys Ile Glu Arg Gln Gln Val Phe Arg Asp Gly Phe
 20 25 30
 Leu Val Leu Leu Glu Gly Gly Leu Ala Met Gly Ile Glu Glu Ala Thr
 35 40 45
 Lys Arg Gln Ser Ile Phe Ser Tyr Pro Glu Asp Leu Tyr Asn Glu Glu
 50 55 60
 Tyr Tyr Asp Asp Gln Ala Pro Glu Lys Lys Arg Arg Leu Thr Pro Glu
 65 70 75 80
 Gln Val His Leu Leu
 85

<210> 653
 <211> 99
 <212> PRT
 <213> Eucalyptus grandis

<400> 653
 Met Glu Trp Glu Lys Gln Glu Gln His His Pro His His His His
 1 5 10 15
 Pro His His His Pro Gln Gln Gln Gln His His Gln Gln Gln Gln
 20 25 30
 Gln Pro Gln Gln Gln Gln Ala Lys Glu Ala Gln Gln Gln Gln Gln
 35 40 45
 Gln Gln Gly Gly Glu Gly Met Gly Asn Gly Thr Ala Ala Gly Asn Gly
 50 55 60
 Gly Gly Val Leu Tyr Val Lys Val Met Thr Asp Glu Gln Leu Glu Thr
 65 70 75 80
 Leu Arg Lys Gln Ile Ala Val Tyr Ala Ser Ile Cys Glu Gln Leu Val
 85 90 95
 Glu Met His

<210> 654
 <211> 150
 <212> PRT
 <213> Eucalyptus grandis

<400> 654
 Ala Arg Gly Pro Val Leu Leu Ala Glu Tyr Thr Glu Phe Ser Gly Asn
 1 5 10 15
 Phe Thr Ser Val Ala Ser Gln Cys Leu Gln Lys Leu Pro Ala Thr Ser
 20 25 30
 Asn Lys Phe Thr Tyr Asn Cys Asp Gly His Thr Phe Asn Tyr Leu Val
 35 40 45
 Asp Asp Gly Leu Thr Tyr Cys Val Val Ala Val Glu Ser Val Gly Arg
 50 55 60
 Gln Ile Pro Met Ala Phe Leu Glu Arg Ile Lys Glu Asp Phe Thr His
 65 70 75 80

Arg Tyr Asp Ala Gly Lys Ala Ala Thr Ala Ser Ala Asn Ser Leu Asn
85 90 95
Arg Glu Phe Gly Pro Lys Leu Lys Glu His Met Gln Tyr Cys Val Asp
100 105 110
His Pro Glu Glu Ile Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser
115 120 125
Glu Val Lys Gly Val Met Met Glu Asn Ile Glu Lys Val Leu Asp Arg
130 135 140
Gly Glu Lys Ile Glu Leu
145 150

<210> 655
<211> 96
<212> PRT
<213> Eucalyptus grandis

<400> 655
Leu Gln Tyr Asp Trp His His Leu Ser Phe Cys Val Ile Ile Ser Val
1 5 10 15
Leu Asn Leu Gln Asn Thr Ile Asn Gly Ser Cys Ser Met Glu Ser Ile
20 25 30
Leu Glu Arg Tyr Glu Arg Tyr Thr Tyr Ala Glu Arg Gln Gln Val Ala
35 40 45
Thr Asp Ser Pro Gln Val Gln Gly Ser Trp Ser Leu Glu Tyr Pro Lys
50 55 60
Leu Val Ala Arg Ile Glu Val Leu Gln Arg Asn Ile Arg Asn Leu Ser
65 70 75 80
Gly Glu Glu Leu Asp Pro Leu Ser Leu Arg Glu Leu Gln Tyr Leu Glu
85 90 95

<210> 656
<211> 338
<212> PRT
<213> Eucalyptus grandis

<400> 656
Met Ala Thr Tyr Tyr His Gln Ser Ser Ser Asp Pro Asp Gly Ala Leu
1 5 10 15
Gln Thr Leu Val Leu Met Asn Pro Ala Ser Tyr Val His Tyr Ser Asp
20 25 30
Ala Pro Pro Pro His Gln Gln Pro Ser Ala Ile Phe Leu Asn Ser Ser
35 40 45
Thr Ala Gly Pro Pro Ala Ser Gln Thr Gln Gln Phe Val Gly Ile Pro
50 55 60
Leu Pro Gly Ser Ala Ala Asp Ser Gln Pro Ser Met His Val Asn
65 70 75 80
His Asp Leu Ser Ser Met His Gly Phe Met Pro Arg Val Gln Tyr Asn
85 90 95
Leu Trp Ser Ser Leu Asp Pro Ser Thr Ala Ala Arg Glu Ala Ser Arg
100 105 110
Thr His Gln Gln Gln Gly Leu Ser Leu Ser Leu Ser Pro Gln Gln Pro
115 120 125
Pro Pro Thr Pro Ala Gly Tyr Arg Ser Phe Val Arg Ala Glu Arg Ser
130 135 140
Gly Asp Gly Ala Ala Gly Ser Gln His Pro Pro Ala Ile Ser Gly Gly
145 150 155 160
Glu Asp Val Arg Ile Ser Gly Gly Ser Pro Ser Ser Ala Ser Gly Val

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | 165 | | | | | 170 | | | | | 175 | | | |
| Thr | Asn | Gly | Ala | Ala | Val | Gly | Ser | Gly | Met | Gln | Gly | Val | Leu | Leu | Ser | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | |
| Ser | Lys | Tyr | Leu | Lys | Ala | Ala | Gln | Glu | Leu | Leu | Glu | Glu | Val | Val | Asn | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | |
| Val | Gly | Asn | Thr | Gly | Ile | Lys | Ala | Glu | Met | Leu | Lys | Lys | Ala | Ser | Gly | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Gln | Ser | Lys | Pro | Gly | Gly | Glu | Ser | Ala | Ala | Leu | Lys | Glu | Glu | Gly | Gly | | |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 | | |
| Gly | Asp | Gly | Ser | Gly | Lys | Arg | Gly | Ala | Glu | Leu | Ser | Met | Ala | Glu | Arg | | |
| | | | 245 | | | | | 250 | | | | | | 255 | | | |
| Gln | Glu | Ile | Gln | Met | Lys | Lys | Ala | Lys | Leu | Ile | Asn | Met | Leu | Asp | Glu | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | |
| Val | Glu | Gln | Arg | Tyr | Arg | Gln | Tyr | His | Asn | Gln | Met | Gln | Ile | Val | Ile | | |
| | 275 | | | | | 280 | | | | | | 285 | | | | | |
| Ser | Ser | Phe | Glu | Gln | Ala | Ala | Gly | Ile | Gly | Ser | Ala | Arg | Thr | Tyr | Thr | | |
| | 290 | | | | 295 | | | | | 300 | | | | | | | |
| Ala | Leu | Ala | Leu | Gln | Thr | Ile | Ser | Lys | Gln | Phe | Arg | Cys | Leu | Lys | Asp | | |
| 305 | | | | 310 | | | | | 315 | | | | | 320 | | | |
| Ala | Ile | Ala | Gly | Gln | Ile | Arg | Ala | Ala | Asn | Lys | Ser | Leu | Gly | Glu | Glu | | |
| | | | 325 | | | | | 330 | | | | | 335 | | | | |

Asp Gly

<210> 657
 <211> 123
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | <400> 657 | | | | | | | | | | | | | |
| Val | Glu | Gln | Val | Gln | Phe | Leu | Glu | Lys | Ser | Phe | Glu | Val | Glu | Asn | Lys | | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | | |
| Leu | Glu | Pro | Asp | Arg | Lys | Ile | Gln | Leu | Ala | Lys | Asp | Leu | Gly | Leu | Gln | | |
| | | | 20 | | | | 25 | | | | | 30 | | | | | |
| Pro | Arg | Gln | Val | Ala | Ile | Trp | Phe | Gln | Asn | Arg | Arg | Ala | Arg | Trp | Lys | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Thr | Lys | Gln | Leu | Glu | Lys | Asp | Tyr | Glu | Thr | Leu | Gln | Ala | Ser | Phe | Asn | | |
| | 50 | | | | 55 | | | | | 60 | | | | | | | |
| Thr | Leu | Lys | Ser | Asp | Tyr | Asp | Thr | Leu | Ile | Lys | Glu | Arg | Asn | Asp | Leu | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Lys | Ala | Glu | Val | Leu | Asn | Leu | Thr | Asp | Lys | Leu | Leu | His | Lys | Gly | Asn | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Glu | Lys | Glu | Ser | Ser | Glu | Ser | Ser | Ser | Lys | Ser | Ser | Gln | Gly | Leu | Phe | | |
| | | 100 | | | | | 105 | | | | | 110 | | | | | |
| Gln | Asn | Pro | Ile | Ala | Asp | Ser | Val | Ser | Glu | Asp | | | | | | | |
| | 115 | | | | | | 120 | | | | | | | | | | |

<210> 658
 <211> 128
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | <400> 658 | | | | | | | | | | | | | |
| Ala | Ile | Ile | Ser | Ser | Asp | Gln | Met | Glu | Arg | Arg | Met | Leu | Glu | Ala | Ala | | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | | |
| Arg | Lys | Gly | Asn | Val | His | Glu | Leu | Glu | Asp | Leu | Ile | Ser | Ser | Asn | Glu | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ile | Leu | Glu | Glu | Met | Asp | Leu | Glu | Gly | Ala | Gly | His | Thr | Pro | Leu |
| | 35 | | | | | | 40 | | | | | 45 | | | |
| His | Val | Ala | Cys | Val | Ala | Gly | His | Leu | Asp | Phe | Val | Arg | Glu | Leu | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Arg | Thr | Pro | Lys | Leu | Ala | Glu | Lys | Val | Asn | Thr | Asp | Gly | Phe | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Pro | Leu | His | Ile | Ala | Ala | Ala | Arg | Gly | Asp | Val | Glu | Ile | Ala | Arg | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Leu | Thr | Met | Gly | Pro | His | Leu | Cys | Ser | Val | Lys | Gly | Arg | Glu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Ile | Pro | Leu | His | Tyr | Ala | Ala | Met | Asn | Gly | Lys | Val | Asp | Val | Met |
| | 115 | | | | | | 120 | | | | | 125 | | | |

<210> 659

<211> 159

<212> PRT

<213> Eucalyptus grandis

<400> 659

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Leu | Ser | Lys | Asp | Gln | Ser | Ala | Val | Leu | Glu | Glu | Ser | Phe | Lys | Glu |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| His | Asn | Thr | Leu | Asn | Pro | Lys | Gln | Lys | Leu | Ala | Leu | Ala | Lys | Gln | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Leu | Arg | Pro | Arg | Gln | Val | Glu | Val | Trp | Phe | Gln | Asn | Arg | Arg | Ala |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Arg | Thr | Lys | Leu | Lys | Gln | Thr | Glu | Val | Asp | Cys | Glu | Tyr | Leu | Lys | Arg |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Cys | Cys | Glu | Ser | Leu | Thr | Glu | Glu | Asn | Arg | Arg | Leu | Gln | Lys | Glu | Val |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Gln | Glu | Leu | Arg | Ala | Leu | Lys | Leu | Ser | Pro | Gln | Phe | Tyr | Met | His | Leu |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Ser | Pro | Pro | Thr | Thr | Leu | Thr | Met | Cys | Pro | Ser | Cys | Glu | Arg | Val | Ala |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Ala | Pro | Ser | Pro | Pro | Ser | Ala | Val | Gly | Arg | Pro | Leu | Ala | Ala | Val | Pro |
| | 115 | | | | | 120 | | | | | | 125 | | | |
| Ala | His | Pro | Arg | Pro | Val | Pro | Leu | Ile | Asn | Pro | Trp | Ala | Pro | Ala | Ala |
| | 130 | | | | 135 | | | | | 140 | | | | | |
| Ala | Leu | Glu | Ile | Val | Asp | Pro | Pro | Gly | Leu | Gln | Glu | Phe | Asp | Ile | |
| 145 | | | | | 150 | | | | | 155 | | | | | |

<210> 660

<211> 115

<212> PRT

<213> Eucalyptus grandis

<400> 660

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Arg | Glu | Lys | Ile | Lys | Ile | Lys | Lys | Ile | Asp | Asn | Val | Thr | Ala |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Arg | Gln | Val | Thr | Phe | Ser | Lys | Arg | Arg | Arg | Gly | Leu | Phe | Lys | Lys | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Glu | Leu | Ser | Val | Leu | Cys | Asp | Ala | Glu | Val | Ala | Val | Val | Ile | Phe |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Ser | Ala | Thr | Gly | Lys | Leu | Phe | Glu | Tyr | Ser | Ser | Ser | Ser | Met | Lys | Asp |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Thr | Leu | Glu | Arg | Tyr | Thr | Leu | His | His | Asn | Asn | Leu | Glu | Asn | Met | Asp |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Gln | Pro | Ser | Leu | Glu | Leu | Gln | Leu | Glu | His | Ser | Asn | Asn | Met | Arg | Leu |

<211> 226
 <212> PRT
 <213> Eucalyptus grandis

<400> 666

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Ser Ala Ala Ser Leu Lys Ala Ser Pro Phe Gly Tyr Pro Gly Met Arg
 1          5          10          15
Pro Thr Arg Phe Thr Gly Ser Gln Ile Ile Met Pro Leu Gly His Thr
      20          25          30
Ile Glu His Glu Glu Met Leu Glu Val Ile Arg Leu Glu Gly His Ser
      35          40          45
Leu Ala Gln Glu Asp Ala Phe Val Ser Arg Asp Ile His Leu Leu Gln
 50          55          60
Ile Cys Ser Gly Ile Asp Glu Asn Ala Val Gly Val Cys Ser Glu Leu
65          70          75          80
Ile Phe Ala Pro Ile Asp Glu Met Phe Pro Asp Asp Ala Pro Leu Leu
      85          90          95
Pro Ser Gly Phe Arg Ile Ile Pro Leu Asp Ser Lys Ser Ser Asp Val
      100          105          110
Gln Asp Ser Leu Thr Thr Asn Arg Thr Leu Asp Leu Thr Ser Ser Leu
      115          120          125
Glu Val Gly Pro Ala Ser Thr Asn Cys Val Gly Asp Val Ala Pro Ser
      130          135          140
His Gly Ala Arg Ser Val Leu Thr Ile Ala Phe Gln Phe Pro Phe Asp
145          150          155          160
Ala Asn Thr Gln Asp Asn Val Ala Val Met Ala Arg Gln Tyr Val Arg
      165          170          175
Ser Val Ile Ser Ser Val Gln Arg Val Ala Met Val Ile Ser Pro Ser
      180          185          190
Gly Leu Gly Pro Ser Ile Asn Pro Lys Leu Ser Gln Gly Ser Pro Glu
      195          200          205
Ala Leu Thr Leu Ala Asn Trp Ile Cys Gln Ser Tyr Arg His Val Leu
210          215          220
Ile Ile
225

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<210> 667
 <211> 147
 <212> PRT
 <213> Eucalyptus grandis

<400> 667

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Val Leu Leu Arg Phe Leu Thr Thr Ala Thr Thr Ile Cys Asn Asn Asn
 1          5          10          15
Ala Gly Gly Ser Gly Ser Gly Ser Gly Ser Gly Cys Phe Phe Met Asp
      20          25          30
Asn Asp Val Lys Ala Lys Ile Met Ala His Pro His Tyr His Arg Leu
      35          40          45
Leu Ser Ala Tyr Val Asn Cys Gln Lys Val Gly Ala Pro Pro Gly Val
 50          55          60
Val Ala Lys Leu Glu Glu Ala Cys Ala Ser Ala Ala Ile Met Ala Gly
65          70          75          80
Asn Ser Gly Met Ser Asn Thr Gly Cys Ile Gly Glu Asp Pro Ala Leu
      85          90          95
Asp Gln Phe Met Glu Ala Tyr Cys Glu Met Leu Thr Lys Tyr Glu Gln
      100          105          110
Glu Leu Ser Lys Pro Phe Lys Glu Ala Met Leu Phe Leu Gln Arg Ile

```


Gln Glu Met Gln Ser Trp Ala Glu Ala Ala Gln Cys Ala Val Ala Val
 130 135 140
 Ala Gly Val Val Met Gln Ala Leu Val Ala Arg Asn Asp Gly Val Trp
 145 150 155 160
 Ser Lys Asp His Val Thr Ala Leu Arg Lys Ile Cys Pro Met Val Ser
 165 170 175
 Ser Glu Ile Ser Cys Glu Ala Ser Ala Ala Glu Val Glu Gly Tyr Gly
 180 185 190
 Ala Ser Lys Leu Thr Val Asp Ser Ala Val Lys Tyr Leu Gln Leu Ala
 195 200 205
 Asn Lys Leu Phe Ser Gln Ala Glu Leu Tyr His Phe Cys Ala Ser Ile
 210 215 220
 Leu Glu Leu Val Ile Pro Val Tyr Lys Ser Arg Arg Ala Tyr Gly Gln
 225 230 235 240
 Leu Ala Lys Cys His Thr Leu Leu Thr Asn Ile Tyr Glu Ser Ile Leu
 245 250 255
 Glu Gln Glu Ser Ser Pro Ile Pro Phe Thr Asp Ala Thr Tyr Tyr Arg
 260 265 270
 Val Gly Phe Tyr Gly Glu Lys Phe Gly Lys Leu Asp Arg Lys Glu Tyr
 275 280 285
 Val Tyr Arg Glu Pro Arg
 290

<210> 670
 <211> 144
 <212> PRT
 <213> Eucalyptus grandis

<400> 670
 His Thr Lys Thr His His His His Ser Ile Ala Ile Ser Asn Pro Thr
 1 5 10 15
 Lys Ser Met Ser Gln Asp Tyr His His Pro Ser Ile Phe Ala Phe Ser
 20 25 30
 Asn Asn Gly Phe Glu Arg Pro Asp Val Ala Ala Ala Ser Ala Ala Ser
 35 40 45
 Asp Gln Glu Gln Gln His His Val Ala Gln Gln Ile Cys Arg Asp Lys
 50 55 60
 Leu Arg Val Gln Gly Phe Asp Gln Pro Pro Pro Pro Gln Leu Val Gly
 65 70 75 80
 Met Glu Glu Glu Pro Gly Gly Leu Pro Ala Tyr Glu Thr Ala Gly Met
 85 90 95
 Leu Ser Glu Met Phe Asn Phe Pro Pro Gly Gly Ala Ala Ala Glu
 100 105 110
 Leu Leu Glu Gln Pro Met Ala Ser Gly Tyr Arg Ala Ala Arg Pro Ser
 115 120 125
 Leu Pro Thr Val Ser Gly Thr Ala Gln Lys Thr Gln Val Cys Ile Gly
 130 135 140

<210> 671
 <211> 125
 <212> PRT
 <213> Eucalyptus grandis

<400> 671
 Ile Val Asp His Met Asp Leu Glu Pro Trp Ser Val Pro Glu Val Leu
 1 5 10 15
 Arg Pro Leu Tyr Glu Ser Ser Thr Leu Leu Ala Gln Arg Thr Thr Met

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | 115 | | | | | 120 | | | | 125 | | | | | | |
| Trp | Ile | Cys | Arg | Ser | Tyr | Arg | Ile | Cys | Ala | Gly | Ala | Glu | Leu | Leu | Arg | | |
| | 130 | | | | | | 135 | | | | 140 | | | | | | |
| Gly | Asp | Ser | Gln | Ala | Gly | Asp | Ala | Val | Leu | Lys | Glu | Phe | Trp | His | His | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Ser | Asp | Ala | Ile | Met | Cys | Cys | Ser | Val | Asn | Thr | Asn | Val | Ala | Ser | Pro | | |
| | | | | 165 | | | | | 170 | | | | | 175 | | | |
| Val | Phe | Thr | Phe | Ala | Asn | Gln | Ala | Gly | Leu | Asp | Met | Leu | Glu | Thr | Thr | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | |
| Leu | Val | Ala | Leu | Gln | Asp | Ile | Met | Leu | Glu | Lys | Val | Leu | Asp | Glu | Gly | | |
| | 195 | | | | | | 200 | | | | | 205 | | | | | |
| Gly | Arg | Lys | Val | Leu | Ser | Ser | Glu | Phe | Pro | Lys | Ile | Met | Gln | Gln | Gly | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Ile | Ala | Tyr | Leu | Pro | Ala | Gly | Val | Cys | Ile | Ser | Ser | Met | Gly | Arg | Pro | | |
| 225 | | | | | 230 | | | | 235 | | | | | | 240 | | |
| Val | Ala | Tyr | Glu | Gln | Ala | Val | | | | | | | | | | | |
| | | | | 245 | | | | | | | | | | | | | |

<210> 682
 <211> 147
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Val | Arg | Leu | Thr | Lys | Glu | Gln | Ser | Ala | Leu | Leu | Glu | Glu | Ser | Phe | Lys | | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | | |
| Gln | His | Ser | Thr | Leu | Asn | Pro | Lys | Gln | Lys | Gln | Ala | Leu | Ala | Arg | Gln | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Leu | Asn | Leu | Arg | Pro | Arg | Gln | Val | Glu | Val | Trp | Phe | Gln | Asn | Arg | Arg | | |
| | 35 | | | | | 40 | | | | | | 45 | | | | | |
| Ala | Arg | Thr | Lys | Leu | Lys | Gln | Thr | Glu | Val | Asp | Cys | Glu | Phe | Leu | Lys | | |
| | 50 | | | | | 55 | | | | 60 | | | | | | | |
| Lys | Cys | Cys | Glu | Thr | Leu | Thr | Asp | Glu | Asn | Arg | Arg | Leu | Gln | Lys | Glu | | |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | | | |
| Leu | Gln | Glu | Leu | Lys | Ala | Leu | Lys | Leu | Ala | Gln | Pro | Phe | Tyr | Met | His | | |
| | | | 85 | | | | | 90 | | | | | | 95 | | | |
| Met | Pro | Ala | Ala | Thr | Leu | Thr | Met | Cys | Pro | Ser | Cys | Glu | Arg | Ile | Gly | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |
| Ala | Gly | Pro | Ser | Val | Asp | Gly | Ala | Ala | Pro | Thr | Lys | Gly | Pro | Phe | Ser | | |
| | 115 | | | | | 120 | | | | | 125 | | | | | | |
| Met | Thr | Thr | Lys | Ser | His | Leu | Tyr | Ser | His | His | Phe | Thr | Asn | Pro | Ser | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Ala | Ala | Cys | | | | | | | | | | | | | | | |
| 145 | | | | | | | | | | | | | | | | | |

<210> 683
 <211> 121
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Pro | Leu | Glu | Phe | His | Asn | Asp | Val | Arg | Leu | Thr | Phe | Ser | Asn | Ala | Met | | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | | |
| Thr | Tyr | Asn | Pro | Pro | Ser | Asn | Asp | Val | His | Leu | Met | Ala | Asp | Thr | Leu | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Asn | Lys | Phe | Phe | Asp | Ile | Arg | Trp | Lys | Thr | Ile | Glu | Lys | Lys | Leu | Val | | |
| | 35 | | | | | | 40 | | | | | 45 | | | | | |

<211> 68
 <212> PRT
 <213> Eucalyptus grandis

<400> 691
 Arg Ile Glu Asn Lys Ile Asn Arg Gln Val Thr Phe Ala Lys Arg Lys
 1 5 10 15
 Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala
 20 25 30
 Glu Val Ala Leu Ile Ile Phe Ser Ser Arg Gly Lys Leu His Glu Phe
 35 40 45
 Cys Ser Gly Pro Arg Tyr Arg Val Phe Val Cys Tyr His Leu Phe Phe
 50 55 60
 Ser Leu Met Leu
 65

<210> 692
 <211> 140
 <212> PRT
 <213> Eucalyptus grandis

<400> 692
 Ile Asn Ala Gly Arg Phe Asp Gln Arg Thr Thr His Glu Glu Arg Arg
 1 5 10 15
 Leu Thr Leu Glu Thr Leu Leu His Asp Glu Glu Arg Tyr Gln Glu Thr
 20 25 30
 Val His Asp Val Pro Ser Leu Gln Glu Val Asn Arg Met Ile Ala Arg
 35 40 45
 Ser Glu Glu Glu Val Glu Leu Phe Asp Gln Met Asp Glu Glu Leu Asp
 50 55 60
 Trp Thr Glu Glu Met Thr Asn Tyr Glu Leu Val Pro Lys Trp Leu Arg
 65 70 75 80
 Ala Ser Thr Lys Glu Val Asn Ala Ala Ile Ala Thr Leu Ser Lys Lys
 85 90 95
 Pro Ser Lys Asn Thr Leu Phe Ala Ser Thr Ile Val Glu Pro Asn Glu
 100 105 110
 Pro Val Ser Glu Ser Val Arg Lys Arg Gly Arg Pro Lys Ser Lys Lys
 115 120 125
 His Pro Asn Tyr Lys Glu Leu Asp Asp Asp Asn Glu
 130 135 140

<210> 693
 <211> 126
 <212> PRT
 <213> Eucalyptus grandis

<400> 693
 Ala Ala Gln Leu Lys His Ser Cys Glu Leu Leu Gly Glu Lys Asp Gly
 1 5 10 15
 Ala Gly Ser Ser Gly Ile Thr Lys Gly Glu Thr Pro Arg Leu Lys Leu
 20 25 30
 Leu Asp Gln Ser Leu Arg Gln Gln Arg Ala Phe His Gln Met Gly Met
 35 40 45
 Met Glu Gln Glu Ala Trp Arg Pro Gln Arg Gly Leu Pro Glu Arg Ser
 50 55 60
 Val Asn Ile Leu Arg Ala Trp Leu Phe Glu His Phe Leu His Pro Tyr
 65 70 75 80

Pro Ser Asp Ala Asp Lys His Leu Leu Ala Arg Gln Thr Gly Leu Ser
 85 90 95
 Arg Asn Gln Val Ser Asn Trp Phe Ile Asn Ala Arg Val Arg Leu Trp
 100 105 110
 Lys Pro Met Val Glu Glu Met Tyr Gln Gln Glu Ser Lys Glu
 115 120 125

<210> 694
 <211> 53
 <212> PRT
 <213> Eucalyptus grandis

<400> 694
 Phe Cys Ser Met Leu Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr
 1 5 10 15
 Gly Ala Leu Glu Pro Asn Val Ser Ala Arg Glu Ser Leu Glu Leu Ser
 20 25 30
 Cys Gln Gln Glu Tyr Leu Arg Leu Lys Ala Arg Tyr Glu Ala Leu Gln
 35 40 45
 Arg Thr Gln Arg Tyr
 50

<210> 695
 <211> 86
 <212> PRT
 <213> Eucalyptus grandis

<400> 695
 Lys Ile Glu Asp Val Arg Glu Glu Ile Leu Arg Lys Arg Arg Ala Gly
 1 5 10 15
 Lys Leu Pro Gly Asp Thr Thr Ser Val Leu Lys Asn Trp Trp Gln Gln
 20 25 30
 His Ser Lys Trp Pro Tyr Pro Thr Glu Asp Asp Lys Ala Lys Leu Val
 35 40 45
 Glu Glu Thr Gly Leu Gln Leu Lys Gln Ile Asn Asn Trp Phe Ile Asn
 50 55 60
 Gln Arg Lys Arg Asn Trp His Asn Asn Ser Gln Ser Val Thr Ser Leu
 65 70 75 80
 Lys Ser Lys Arg Lys Arg
 85

<210> 696
 <211> 99
 <212> PRT
 <213> Eucalyptus grandis

<400> 696
 Pro Val Asp Ile Thr Gly Met Gln Ala Val Met Thr Gly Cys Asp Ser
 1 5 10 15
 Ser Asn Ile Ala Ala Leu Pro Ser Gly Phe Ser Ile Leu Pro Asp Gly
 20 25 30
 Ile Glu Ser Arg Pro Leu Val Ile Ser Ser Arg His Glu Glu Lys Ser
 35 40 45
 Ser Glu Gly Gly Ser Leu Leu Thr Ile Ala Phe Gln Ile Leu Thr Asn
 50 55 60
 Thr Ser Pro Thr Ala Lys Leu Thr Val Glu Ser Val Glu Ser Val Asn
 65 70 75 80

Thr Leu Ile Ser Cys Thr Leu Arg Asn Ile Arg Thr Ser Leu Gln Cys
85 90 95
Glu Asp Gly

<210> 697
<211> 134
<212> PRT
<213> Eucalyptus grandis

<400> 697
Glu Asn Lys Ile Asn Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly
1 5 10 15
Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val
20 25 30
Ala Leu Ile Ile Phe Ser His Arg Gly Lys Leu Tyr Glu Phe Cys Ser
35 40 45
Ser Ser Ser Met Leu Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr
50 55 60
Gly Ala Pro Glu Pro Ser Ile Ser Thr Arg Glu Ala Gln Leu Glu Leu
65 70 75 80
Ser Ser Gln Gln Glu Tyr Leu Lys Leu Lys Ala Arg Tyr Glu Ala Leu
85 90 95
Gln Arg Thr Gln Arg Asn Leu Leu Gly Glu Glu Leu Gly Pro Leu Ser
100 105 110
Ser Lys Glu Leu Glu Ser Leu Glu Arg Gln Leu Asp Ser Ser Leu Lys
115 120 125
Gln Ile Arg Ser Thr Arg
130

<210> 698
<211> 145
<212> PRT
<213> Eucalyptus grandis

<400> 698
Met Gln Glu Pro Asn Leu Ala Met Met Gly Gly Gly Gly Gly Gly Gly
1 5 10 15
Gly Gly Gly Gly Gly Ile Val Gly Gly Gly Gly Gly Gly Leu Gly Ser
20 25 30
Glu Ala Ser Phe Ser Gly Asp His Pro Gln Arg Gln Leu Lys Gly Glu
35 40 45
Ile Ala Ser His Pro Met Tyr Glu Gln Leu Leu Ser Ala His Val Ala
50 55 60
Cys Leu Arg Val Ala Thr Pro Ile Asp Gln Leu Pro Leu Ile Asp Ala
65 70 75 80
Gln Leu Ala Gln Ser His His Leu Leu Arg Ser Tyr Ala Ser Ser Val
85 90 95
Gln His Gly His Ser Ser Leu Ser Pro His Asp Arg Gln Glu Leu Asp
100 105 110
His Phe Leu Ala Gln Tyr Leu Val Val Leu Cys Ser Phe Lys Glu Gln
115 120 125
Leu Gln Gln His Val Arg Val His Ala Val Glu Ala Val Met Ala Cys
130 135 140
Arg
145

Ala Met Thr Tyr Asn Pro Glu Gly Gln Asp Val His Val Met Ala Glu
65 70 75 80
Ile Leu Tyr Lys Ile Phe Glu Asp Arg Trp Ala Ile Ile Glu Ser Asp
85 90 95
Tyr Asn Arg Glu Met Arg Phe Ala Leu Asp Tyr Asp Met Gly Leu Pro
100 105 110
Thr Pro Thr Ser
115

<210> 704
<211> 116
<212> PRT
<213> Eucalyptus grandis

<400> 704
Pro Ser Tyr Gly Asn Gly Tyr Ser Pro Pro Gln Tyr Gly Asn Gly Pro
1 5 10 15
Ala Tyr His Pro Met Pro Thr Tyr Tyr Pro Met Gly Tyr Arg Ile Cys
20 25 30
Ala Gly Cys Asn Thr Glu Ile Gly His Gly Arg Phe Leu Ser Cys Met
35 40 45
Asn Ala Val Trp His Pro Glu Cys Phe Cys Cys Arg Ala Cys Thr Leu
50 55 60
Pro Ile Ser Asp Tyr Glu Phe Ser Leu Ser Gly Asn Tyr Pro Tyr His
65 70 75 80
Lys Ser Cys Tyr Lys Glu His Tyr His Pro Lys Cys Asp Val Cys Ser
85 90 95
His Phe Ile Pro Thr Asn Leu Ala Gly Leu Ile Glu Tyr Arg Ala His
100 105 110
Pro Phe Trp Ser
115

<210> 705
<211> 96
<212> PRT
<213> Eucalyptus grandis

<400> 705
Thr Trp Pro Glu Asp Ile Cys Ser Val Lys Ser Asp Met Phe Asp Ser
1 5 10 15
Glu Ser Pro His Tyr Thr Asp Ala Ala His Ser Ser Leu Leu Glu Pro
20 25 30
Gly Asp Ser Ser Tyr Ala Phe Glu Pro Asp His Ser Asp Leu Ser Gln
35 40 45
Asp Glu Glu Asp Asn Leu Ser Lys Ser Leu Leu Ser Thr Arg Asn Tyr
50 55 60
Pro Lys Leu Glu Asn Ser Asp Tyr Ala Ile Leu Pro Pro Asn Ser Cys
65 70 75 80
Asn Phe Gly Phe His Ala Glu Asp Pro Ala Phe Trp Pro Trp Ser Tyr
85 90 95

<210> 706
<211> 149
<212> PRT
<213> Eucalyptus grandis

<400> 706

Leu Thr Met Cys Pro Phe Cys Glu Arg
130 135

<210> 711
<211> 104
<212> PRT
<213> Eucalyptus grandis

<400> 711
Ala Asp Tyr Asp Glu Gly Gly Asp Asp Asn Pro Gly Ser Arg His Pro
1 5 10 15
Val Thr Arg Gln Phe Phe Pro Val Glu Glu Glu Glu Leu Glu Glu
20 25 30
Asp Gly Glu Arg Ala Gly Met Gly Gly Ala Ala Val Pro Pro Gly Phe
35 40 45
Pro Arg Ala His Trp Val Gly Val Arg Phe Arg Gln Ser Asp His His
50 55 60
Pro Ile Gly Ser Gly Lys Gly Ser Pro Ile Leu Glu Gly Ser Gln Pro
65 70 75 80
Met Lys Lys Ile Arg Lys Gly Pro Arg Ser Arg Ser Ser Gln Tyr Arg
85 90 95
Gly Val Thr Phe Tyr Arg Arg Thr
100

<210> 712
<211> 138
<212> PRT
<213> Eucalyptus grandis

<400> 712
Asp Asp Leu Asp Asn Glu Arg Ala Ser Ser Arg Gly Gly Gly Ser Asp
1 5 10 15
Glu Glu Asp Gly Asp Met Ser Arg Lys Lys Leu Arg Leu Ser Lys Asp
20 25 30
Gln Ser Ala Val Leu Glu Glu Ser Phe Lys Glu His Asn Thr Leu Asn
35 40 45
Pro Lys Gln Lys Leu Ala Leu Ala Lys Gln Leu Gly Leu Arg Pro Arg
50 55 60
Gln Val Glu Val Trp Phe Gln Asn Arg Arg Ala Arg Thr Lys Leu Lys
65 70 75 80
Gln Thr Glu Val Asp Cys Glu Tyr Leu Lys Arg Cys Cys Glu Ser Leu
85 90 95
Thr Glu Glu Asn Arg Arg Leu Gln Lys Glu Val Gln Glu Leu Arg Ala
100 105 110
Leu Lys Leu Ser Pro Gln Phe Tyr Met His Leu Ser Pro Pro Thr Thr
115 120 125
Leu Thr Met Cys Pro Ser Cys Glu Arg Val
130 135

<210> 713
<211> 128
<212> PRT
<213> Eucalyptus grandis

<400> 713
Glu Ser Gln Lys Leu Met Glu Ala Val Gln Asn Gly Asp Val Ser Ala
1 5 10 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Asp | Leu | Leu | Asp | Gln | Asp | Pro | Leu | Leu | Leu | Asp | Arg | Ile | Ile |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Val | Leu | Gly | Val | Ser | Asp | Thr | Pro | Leu | His | Ala | Ala | Ser | Val | Leu | Gly |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| His | Ala | Asp | Leu | Val | Arg | Glu | Leu | Leu | Arg | Arg | Ala | Pro | Arg | Leu | Ala |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Ser | Glu | Gln | Asp | Ser | Arg | Gly | Asn | Ser | Pro | Leu | His | Leu | Ala | Ala | Gly |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Lys | Gly | His | Gly | Glu | Ile | Val | Gly | Glu | Leu | Leu | Ser | Ala | Asp | Pro | Ala |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ala | Ala | Ser | Ala | Arg | Asn | Leu | Asp | Gly | Arg | Ala | Pro | Ile | His | Val | Ala |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Ala | Ile | Lys | Gly | Arg | Val | Asp | Ala | Val | Gly | Arg | Met | Val | Gly | Ala | Val |
| | 115 | | | | | 120 | | | | | 125 | | | | |

<210> 714
 <211> 93
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ser | Gly | Tyr | Leu | Ser | Ser | Leu | Lys | Gln | Glu | Leu | Ser | Lys | Lys | Lys |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Lys | Lys | Gly | Lys | Leu | Pro | Lys | Glu | Ala | Arg | Gln | Lys | Leu | Leu | Ser | Trp |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Trp | Glu | Leu | His | Tyr | Lys | Trp | Pro | Tyr | Pro | Ser | Glu | Thr | Glu | Lys | Val |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Ala | Leu | Ala | Glu | Ser | Thr | Gly | Leu | Asp | Gln | Lys | Gln | Ile | Asn | Asn | Trp |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Phe | Ile | Asn | His | Val | Ile | Glu | Cys | Trp | Val | Lys | Ser | Met | Ala | Thr | Leu |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Met | Gln | Glu | Ile | Phe | Leu | Met | Thr | Lys | Val | Ile | Leu | Arg | | | |
| | | | 85 | | | | | 90 | | | | | | | |

<210> 715
 <211> 127
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Phe | Ser | Phe | Gly | Ile | Leu | Lys | Ala | Gly | Glu | Gly | Gly | Asp | Gly | Val |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Ala | Asp | Asp | Glu | Leu | Gly | Val | Thr | Arg | Gln | Leu | Phe | Pro | Val | Arg | Glu |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Val | Asp | Ala | Asp | Met | Glu | Trp | Cys | Gly | Glu | Ser | Ser | Ser | Leu | Asp | Lys |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Arg | Ser | Asp | Val | Phe | Leu | Val | Gly | Ala | Cys | Lys | Glu | Lys | Glu | Gly | Pro |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Arg | Leu | Ala | Met | Pro | Gln | Gln | Arg | Arg | Lys | Ser | Arg | Arg | Gly | Pro | Arg |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Ser | Arg | Ser | Ser | Gln | Tyr | Arg | Gly | Val | Thr | Phe | Tyr | Arg | Arg | Thr | Gly |
| | | | 85 | | | | 90 | | | | | | | 95 | |
| Arg | Trp | Glu | Ser | His | Ile | Trp | Asp | Cys | Gly | Lys | Gln | Val | Tyr | Leu | Gly |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Gly | Phe | Asp | Thr | Ala | His | Ala | Ala | Ala | Arg | Pro | Met | Ile | Glu | Leu | |
| | 115 | | | | | 120 | | | | | | 125 | | | |

<210> 716
 <211> 35
 <212> PRT
 <213> Eucalyptus grandis

<400> 716
 Ser Glu Asp Met Gln Phe Met Val Met Asp Gly Leu His Pro Gln Gly
 1 5 10 15
 Ala Ala Leu Tyr Met Asp Gly His Tyr Ile Gly Asp Gly Pro Tyr Arg
 20 25 30
 Leu Gly Pro
 35

<210> 717
 <211> 179
 <212> PRT
 <213> Eucalyptus grandis

<400> 717
 Ala Ala Phe Glu Gly Met Asp Ser Leu Pro Ser Pro Arg Lys Lys Lys
 1 5 10 15
 Asn Gln Leu Val Asn Arg Arg Arg Phe Ser Asp Glu Gln Ile Arg Ser
 20 25 30
 Leu Glu Ser Ile Phe Glu Ser Glu Ser Arg Leu Glu Pro Arg Lys Lys
 35 40 45
 Leu Gln Leu Ala Arg Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Ile
 50 55 60
 Trp Phe Gln Asn Lys Arg Ala Arg Trp Lys Ser Lys Gln Leu Glu Arg
 65 70 75 80
 Asp Phe Ala Ile Leu Arg Ala Asn Tyr Asn Ala Leu Tyr Ser Arg Phe
 85 90 95
 Glu Ser Leu Lys Lys Glu Lys Gln Ser Leu Val Thr Gln Ile Glu Lys
 100 105 110
 Leu Asn Gln Leu Val Glu Lys Pro Gln Gly Glu Gly Gln Ser Cys Gly
 115 120 125
 His Asp Leu Ala Thr Asn Ser Thr Asp Arg Glu Ser Asp Asn Gly Val
 130 135 140
 Pro Lys Tyr Glu Asp Ser Gln Pro Val Phe Pro Asp Lys Leu Thr Arg
 145 150 155 160
 Leu Met Gly Ile Pro Cys Glu Asp Asp Tyr Phe Gly Leu Lys Arg Ala
 165 170 175
 Glu Pro Pro

<210> 718
 <211> 142
 <212> PRT
 <213> Eucalyptus grandis

<400> 718
 Asn Leu Thr Asp Lys Leu Leu His Lys Gly Asn Glu Lys Glu Ser Ser
 1 5 10 15
 Glu Ser Ser Ser Lys Ser Ser Gln Gly Leu Phe Gln Asn Pro Ile Ala
 20 25 30
 Asp Ser Val Ser Glu Asp Glu Val Ser Arg Val Pro Ile Pro Thr Trp
 35 40 45
 Pro Glu Asp Ile Cys Ser Val Lys Ser Asp Met Phe Asp Ser Glu Ser

Ser Glu Lys Ala Lys Leu Ser Val Cys Met Tyr His Gly Thr Thr Arg
50 55 60
Thr Lys Asp Pro Tyr Glu Leu Ala Asn Tyr Asp Val Val Leu Thr Thr
65 70 75 80
Tyr Ser Ile Val Ser Met Glu Val Pro Lys Pro Ala Gly Phe Lys Asp
85 90 95
Glu Lys Asp Ser Leu Gln Asp Asp Asp Ala Phe Phe Gly Arg Lys
100 105 110
Arg Lys His Ser Ala Lys Ser Glu Lys Arg Arg Leu Lys Lys Glu Met
115 120 125

<210> 721

<211> 114

<212> PRT

<213> Eucalyptus grandis

<400> 721

Phe Arg Leu Phe Ile Asn Trp Leu Leu Asp Phe Asn Ser Ala Asp Ser
1 5 10 15
Ala Ile Asp Ser Ala His Phe Gln Ile Leu Thr Ala Phe Ala Asn Ala
20 25 30
Phe His Ala Leu Gln Pro Leu Lys Val Pro Ala Phe Ser Phe Ala Trp
35 40 45
Leu Glu Leu Val Ser His Arg Ser Phe Met Pro Lys Ile Leu Ser Gly
50 55 60
Asn Ser Gln Lys Gly Trp Pro Tyr Phe Gln Arg Leu Leu Val Asp Leu
65 70 75 80
Phe Gln Tyr Met Glu Pro Phe Leu Arg Asn Ala Glu Leu Gly Leu Pro
85 90 95
Val His Phe Leu Tyr Lys Gly Thr Leu Arg Val Leu Leu Val Leu Leu
100 105 110
His Asp

<210> 722

<211> 183

<212> PRT

<213> Eucalyptus grandis

<400> 722

Met Asn Arg Glu Arg Leu Met Lys Met Ala Gly Ser Val Arg Thr Gly
1 5 10 15
Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Ala Val His Lys Thr Thr
20 25 30
Thr Thr Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
35 40 45
Asn Ala Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp Val
50 55 60
Val Ile Gln Phe Leu Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
65 70 75 80
Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Lys Leu Gln Asp Ile
85 90 95
Leu Pro Gly Ile Ile Asn Gln Leu Gly Pro Asp Asn Leu Asp Asn Leu
100 105 110
Arg Lys Leu Ala Glu Gln Phe Gln Lys Gln Val Pro Gly Ala Ala Thr
115 120 125
Gly Ser Gly Ala Thr Gly Met Gln Asp Asp Asp Asp Asp Glu Val Pro

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 50 | | 55 | | 60 | | | | | | | | | | | | |
| Ala | Cys | Ser | Pro | Thr | Phe | Ser | Ser | Glu | Leu | His | Ser | Asn | His | His | Arg | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Lys | Val | Leu | Glu | Met | Arg | Arg | Lys | Lys | Glu | Ser | Met | Thr | Thr | Thr | Ala | |
| | | | | 85 | | | | | 90 | | | | | | 95 | |
| Leu | Gly | Gln | Pro | Glu | Pro | Gly | Arg | Ala | Arg | Ala | Gln | Leu | Leu | Arg | Ala | |
| | | | 100 | | | | | 105 | | | | | | 110 | | |
| Arg | Val | Gly | Ser | Ser | Trp | Arg | Pro | Arg | Glu | Ile | | | | | | |
| | | 115 | | | | | 120 | | | | | | | | | |

<210> 729
 <211> 213
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 729 | | | | | | | | | | | | | | | | |
| Ala | Ala | Gly | Leu | Leu | Arg | Cys | Gly | Lys | Ser | Cys | Arg | Leu | Arg | Trp | Ile | |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | | |
| Asn | Tyr | Leu | Arg | Pro | Asp | Leu | Lys | Arg | Gly | Asn | Phe | Thr | Glu | Glu | Glu | |
| | | 20 | | | | | | 25 | | | | | 30 | | | |
| Asp | Glu | Ile | Ile | Ile | Lys | Leu | His | Ser | Leu | Leu | Gly | Asn | Lys | Trp | Ser | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Leu | Ile | Ala | Gly | Arg | Leu | Pro | Gly | Arg | Thr | Asp | Asn | Glu | Ile | Lys | Asn | |
| | | 50 | | | | 55 | | | | | 60 | | | | | |
| Tyr | Trp | Asn | Thr | His | Ile | Arg | Arg | Lys | Leu | Leu | Asn | Arg | Gly | Ile | Asp | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | |
| Pro | Ala | Thr | His | Arg | Leu | Ile | Asn | Glu | Pro | Ala | Gln | Asp | His | His | Asp | |
| | | | 85 | | | | | 90 | | | | | | 95 | | |
| Glu | Pro | Thr | Ile | Ser | Phe | Ala | Ala | Asn | Ser | Lys | Glu | Ile | Lys | Glu | Met | |
| | | 100 | | | | | | 105 | | | | | 110 | | | |
| Lys | Asn | Asn | Ala | Glu | Leu | Asn | Phe | Met | Cys | Asn | Leu | Glu | Glu | Ser | Ala | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Asp | Val | Ala | Ser | Ser | Ala | Arg | Glu | Arg | Cys | Pro | Asp | Leu | Asn | Leu | Glu | |
| | 130 | | | | 135 | | | | | 140 | | | | | | |
| Leu | Gly | Ile | Ser | Pro | Pro | Ser | His | Gln | Leu | His | Gln | Pro | Glu | Pro | Leu | |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 | |
| Leu | Arg | Phe | Thr | Gly | Arg | Lys | Ser | Asp | Leu | Cys | Leu | Glu | Cys | Asn | Leu | |
| | | | 165 | | | | | 170 | | | | | | 175 | | |
| Gly | Leu | Lys | Asn | Ser | Gln | Asn | Cys | Arg | Cys | Ser | Val | Gly | Val | Ile | Glu | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Ser | Glu | Thr | Ser | Val | Gly | Tyr | Asp | Phe | Leu | Gly | Leu | Lys | Ala | Ser | Val | |
| | 195 | | | | | 200 | | | | | | 205 | | | | |
| Leu | Asp | Tyr | Arg | Ser | | | | | | | | | | | | |
| | 210 | | | | | | | | | | | | | | | |

<210> 730
 <211> 61
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 730 | | | | | | | | | | | | | | | | |
| Met | Ser | Val | Leu | Ser | Lys | Ser | Asp | Ser | Val | Glu | Ile | Arg | Glu | Val | Trp | |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | | |
| Glu | Tyr | Asn | Leu | Glu | Asp | Glu | Phe | Ser | Phe | Ile | Arg | Glu | Ile | Val | Asp | |
| | | 20 | | | | | | 25 | | | | | 30 | | | |
| Asp | Tyr | Pro | Tyr | Ile | Ala | Met | Asp | Thr | Glu | Phe | Pro | Gly | Met | Val | Leu | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |

Arg Pro Val Gly Asn Phe Lys Ser Ser Ser Glu Ser His
 50 55 60

<210> 731
 <211> 94
 <212> PRT
 <213> Eucalyptus grandis

<400> 731
 Met Arg Arg Lys Lys Lys Ala Val His Lys Thr Thr Thr Thr Asp Asp
 1 5 10 15
 Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val Asn Ala Ile Pro
 20 25 30
 Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp Val Val Ile Gln Phe
 35 40 45
 Leu Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn Thr Trp Val Val
 50 55 60
 Ser Gly Ser Pro Gln Thr Lys Lys Leu Gln Asp Ile Leu Pro Gly Ile
 65 70 75 80
 Ile Asn Gln Leu Gly Pro Asp Asn Leu Asp Asn Leu Gly Ser
 85 90

<210> 732
 <211> 103
 <212> PRT
 <213> Eucalyptus grandis

<400> 732
 Tyr Trp Glu Thr Leu Met Phe Phe Gln Ser Glu Glu Leu Leu His Asn
 1 5 10 15
 Ser Cys Val Ser Glu Val Ile Ser Arg Phe Asn Gly Pro Ser Ser Pro
 20 25 30
 Asp Ala Ala Ala Leu Pro Val Ala Ser Lys Ser Ile Asp Leu Glu Arg
 35 40 45
 Asn Arg Arg Lys Lys Leu Asn Glu Arg Leu Phe Ala Leu Arg Ala Leu
 50 55 60
 Val Pro Lys Ile Ser Lys Met Asp Lys Ala Ser Ile Val Lys Asp Ala
 65 70 75 80
 Ile Asp Tyr Ile Gln Asp Leu Arg Glu Gln Glu Gly Arg Ser Glu Pro
 85 90 95
 Arg Ser Gln Ser Ser Asn Leu
 100

<210> 733
 <211> 78
 <212> PRT
 <213> Eucalyptus grandis

<400> 733
 Gly Val Ala Ile Asp Val Lys Ile Met Gly Trp Asp Ala Val Val Arg
 1 5 10 15
 Val Glu Ser Gly Arg Lys Asp His Pro Ala Ala Arg Leu Met Val Ala
 20 25 30
 Leu Gln Glu Leu Asn Leu Glu Leu Gln His Ala Ser Val Ser Val Val
 35 40 45
 Asn Glu Leu Met Ile Gln Gln Ala Thr Val Lys Met Gly Ser Gln Leu
 50 55 60

Tyr Thr Gln Glu Gln Leu Lys Ala Ala Leu Leu Ala Val Ile
65 70 75

<210> 734
<211> 122
<212> PRT
<213> Eucalyptus grandis

<400> 734
Gly Ile Tyr Ser Cys Leu Asn Leu Asp Ala Ser Asn Gly Gly Ser Ser
1 5 10 15
Ala Ile Asp Pro Ser Ile Ser Ser Ala Ile Leu Asp Asp Phe Cys Thr
20 25 30
Ile Lys Asp Gly Pro Phe Pro Asn Leu Ser Asp Cys Leu Val Gly Asn
35 40 45
Phe Ser Ser Ser Gln Asp Val Gln Ser Gln Ile Thr Ser Ala Ser Leu
50 55 60
Ala Asp Ser Gln Ala Phe Ser Arg Gln Asp Phe Pro Asp Asn Ser Gly
65 70 75 80
Gly Thr Ser Ser Ser Asn Val Asp Phe Asp Glu Ser Ser Ile Leu Lys
85 90 95
Asn Ser Thr Trp Gln Gln Gln Val Ala Pro Pro Met Arg Thr Tyr Thr
100 105 110
Lys Val Gln Lys Ala Gly Ser Val Gly Arg
115 120

<210> 735
<211> 133
<212> PRT
<213> Eucalyptus grandis

<400> 735
Met Gly Ser Ser Ala Ser Ser Gln Arg Pro Asp Asn Leu Gln Asp Lys
1 5 10 15
Val Gly Pro Val Ser Val Ser Asp Glu Glu Trp Lys Lys Arg Leu Thr
20 25 30
Pro Glu Gln Tyr Tyr Val Ala Arg Gln Lys Gly Thr Glu Arg Ala Phe
35 40 45
Thr Gly Glu Tyr Trp Asn Thr Lys Thr Pro Gly Thr Tyr His Cys Val
50 55 60
Cys Cys Asp Thr Pro Leu Phe Glu Ser Asn Thr Lys Phe Asp Ser Gly
65 70 75 80
Thr Gly Trp Pro Ser Tyr Tyr Gln Pro Ile Gly Asn Asn Val Lys Ser
85 90 95
Lys Leu Asp Leu Ser Ile Ile Phe Met Pro Arg Gln Glu Val Leu Cys
100 105 110
Ala Ala Cys Asp Ala His Leu Gly His Ile Phe Asp Asp Gly Pro Pro
115 120 125
Pro Thr Gly Lys Arg
130

<210> 736
<211> 163
<212> PRT
<213> Eucalyptus grandis

<400> 736

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Asp | Lys | Cys | Gly | Glu | Gly | Leu | Leu | Val | Ala | Val | Glu | Ala | Gln |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Lys | Ala | Val | Pro | Ala | Pro | Phe | Leu | Thr | Lys | Thr | Tyr | Gln | Leu | Val | Asp |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Asp | Pro | Ser | Thr | Asp | His | Ile | Val | Ser | Trp | Gly | Asp | Asp | Asp | Ser | Thr |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Phe | Val | Val | Trp | Arg | Pro | Pro | Glu | Phe | Ala | Arg | Asp | Leu | Leu | Pro | Asn |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Tyr | Phe | Lys | His | Asn | Asn | Phe | Ser | Ser | Phe | Val | Arg | Gln | Leu | Asn | Thr |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Tyr | Gly | Phe | Arg | Lys | Ile | Val | Pro | Asp | Arg | Trp | Glu | Phe | Ala | Asn | Glu |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Phe | Phe | Arg | Lys | Gly | Glu | Lys | His | Leu | Leu | Cys | Glu | Ile | His | Arg | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Thr | Ala | Gln | Pro | Gln | Leu | Thr | His | His | His | Pro | His | Ser | Ala | Ser |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Pro | Leu | Ser | Gly | Pro | Thr | Pro | Ala | Phe | Phe | Pro | Phe | Pro | Ser | Arg | Leu |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ser | Ile | Ser | Pro | Ser | Asp | Ser | Asp | Asp | Gln | His | Ser | Ser | His | Trp | Cys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Asp | Ser | Pro | | | | | | | | | | | | | |

<210> 737
 <211> 172
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Glu | Ala | Leu | Ser | Ser | Pro | Thr | Ala | Pro | Ser | Ala | Pro | Phe |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Gln | Phe | Met | Lys | Asp | Ser | Ser | Pro | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Ser |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Ser | Ser | Ser | Ser | Ala | Tyr | Asp | Leu | Pro | Leu | Ala | Glu | Pro | Trp | Ala | Lys |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Arg | Lys | Arg | Ser | Lys | Arg | Pro | His | Asn | Pro | Pro | Ser | Glu | Asp | Glu | Tyr |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Leu | Ala | Leu | Cys | Leu | Ile | Met | Leu | Ala | Arg | Gly | Gly | Ala | Gly | Arg | Thr |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Leu | Pro | Pro | Pro | Pro | Pro | Pro | Ala | Val | Ser | Ser | Glu | Ala | Ala | Lys | Val |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Ala | Tyr | Arg | Cys | Pro | Val | Cys | Asp | Lys | Gly | Phe | Pro | Ser | Tyr | Gln | Ala |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Leu | Gly | Gly | His | Lys | Ala | Ser | His | Arg | Lys | His | Ala | Ser | Ser | Ala | Ala |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Ala | Ala | Ala | Gly | Gly | Asp | Asp | Gln | Pro | Thr | Thr | Ser | Ser | Thr | Ser | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ala | Thr | Thr | Ser | Ser | Gly | Val | Ser | Gly | Lys | Val | His | Glu | Cys | Ser | Ile |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Cys | His | Lys | Ser | Phe | Pro | Thr | Gly | Gln | Ala | Leu | Gly | | | | |
| | | | | 165 | | | | 170 | | | | | | | |

<210> 738
 <211> 78
 <212> PRT
 <213> Eucalyptus grandis

<400> 738
 Ile Ser Ser Ser Arg Trp Pro Arg Gln Glu Thr Leu Thr Leu Leu Glu
 1 5 10 15
 Ile Arg Ser Arg Leu Asp Pro Lys Phe Lys Glu Ala Asn Gln Lys Gly
 20 25 30
 Pro Leu Trp Asp Glu Val Ser Arg Ile Met Ser Glu Glu His Gly Tyr
 35 40 45
 Asn Arg Ser Gly Lys Lys Cys Arg Glu Lys Phe Glu Asn Leu Tyr Lys
 50 55 60
 Tyr Tyr Lys Thr Thr Lys Glu Gly Lys Ala Gly Arg Gln Asp
 65 70 75

<210> 739

<211> 135

<212> PRT

<213> Eucalyptus grandis

<400> 739
 Met Gly Pro Gln Met Asn Phe Arg Asn Leu Ala Asp Val Pro Ala Ala
 1 5 10 15
 Glu Arg Ser Thr Gly Gly Gln Pro Gly Ile Pro Leu Leu Ser Arg Gln
 20 25 30
 Ser Ser Val Tyr Ser Leu Thr Phe Asn Glu Phe Gln Asn Thr Trp Ser
 35 40 45
 Gly Leu Ser Lys Asp Ile Gly Ser Ile Asn Met Asp Glu Phe Leu Lys
 50 55 60
 Asn Ile Trp Thr Ala Glu Glu Ser Gln Leu Gln Leu Gln Asp Met Ala
 65 70 75 80
 Pro Ser Gly Asn Gly Glu Gly Gly Gly Gln Val Gly Asn Leu Leu
 85 90 95
 Arg Gln Gly Ser Leu Thr Leu Ser Arg Thr Ile Ser Gln Lys Thr Val
 100 105 110
 Asp Glu Val Trp Arg Glu Leu Phe Lys Glu Thr Glu Asp Val Lys Glu
 115 120 125
 Gly Ser Arg Glu Gly Gly Asp
 130 135

<210> 740

<211> 49

<212> PRT

<213> Eucalyptus grandis

<400> 740
 Asp Phe Glu Arg Asn Arg Ala Glu Gly Val Asp Ser Ala Arg Phe Ala
 1 5 10 15
 Glu Leu Met Ile Ser Ser Gly Leu Leu Cys Asn Asp Ala Val Ile Trp
 20 25 30
 Val Thr Phe His Ser Ala Tyr Asp Phe Gly Tyr Leu Val Lys Ile Leu
 35 40 45
 Thr

<210> 741

<211> 101

<212> PRT

<213> Eucalyptus grandis

<400> 741
 Met Asn Phe Ser Asp Lys Glu Val Gln Leu Ala Ser Asp His Pro Lys
 1 5 10 15
 Lys Pro Ala Gly Arg Lys Lys Phe Arg Glu Thr Arg His Pro Val Tyr
 20 25 30
 Arg Gly Val Arg Leu Arg Asp Ser Gly Lys Trp Val Cys Glu Val Arg
 35 40 45
 Glu Pro Lys Lys Lys Ser Arg Ile Trp Leu Gly Thr Phe Pro Thr Val
 50 55 60
 Glu Met Ala Ala Arg Ala His Asp Val Ala Ala Leu Ala Leu Arg Gly
 65 70 75 80
 Gln Ser Ala Cys Leu Asn Phe Ala Asp Ser Ala Trp Arg Leu Pro Lys
 85 90 95
 Pro Ala Ser Thr Asp
 100

<210> 742
 <211> 113
 <212> PRT
 <213> Eucalyptus grandis

<400> 742
 Gly Met Asp Ser Arg Thr Ser Ser Arg Ile Ser Gly Val Thr Leu Gln
 1 5 10 15
 Glu Val Pro Pro Thr Ser Ser Gln Val Pro Glu Ile Pro Pro Ala Leu
 20 25 30
 Gly Ala Ser Ala Asn Asp Pro Ser Ala Val Ser Glu Leu Lys Ala
 35 40 45
 Pro Ser Gln Gly Thr Ala Lys Val Thr Thr Asn Gln Phe Pro Asp Met
 50 55 60
 Gly Met Leu Ala Gly Ala Gln Glu Ser Glu Ala Val Ser Val Asn Gln
 65 70 75 80
 Ala Asp Thr Val Met Thr Gly Ile Ser Gln Thr Gln Asp Met Val Leu
 85 90 95
 Glu Asp Ile Ala Asn Ile Ser Arg Asp Asp Tyr Met Gly Ala Asp Leu
 100 105 110
 His

<210> 743
 <211> 200
 <212> PRT
 <213> Eucalyptus grandis

<400> 743
 Lys Ala Tyr Ala Arg Arg Gln His Ala Trp Leu Thr Gly Ala Asn Glu
 1 5 10 15
 Val Asp Ser Lys Thr Phe Ser Arg Ala Ile Leu Ala Lys Ser Ala Arg
 20 25 30
 Ile Gln Thr Val Val Cys Ile Pro Leu Leu Asp Gly Val Val Glu Phe
 35 40 45
 Gly Thr Thr Glu Arg Val Gln Glu Asp Ile Ser Leu Val Asn His Val
 50 55 60
 Lys Thr Phe Phe Val Asp His His Pro Pro His Pro Pro Lys Pro Ala
 65 70 75 80
 Leu Ser Glu His Ser Thr Ser Asn Pro Ala Ala Thr Ser Ser Gly His
 85 90 95

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Arg | Phe | His | Ser | Pro | Pro | Val | Pro | Ser | Tyr | Ala | Pro | Ala | Asp | Pro |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Pro | Ala | Ala | Ala | Asn | Gln | Gly | Asp | Glu | Glu | Glu | Glu | Asp | Asp | Asp | Asp |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asp | Glu | Glu | Glu | Gly | Glu | Ser | Asp | Ser | Glu | Ala | Glu | Thr | Gly | Arg | Gln |
| | | 130 | | | | | 135 | | | | 140 | | | | |
| Gly | Ala | Ala | Ala | Ala | Ala | Gln | Asn | Pro | His | Gly | Ala | Gly | Pro | Ala | Asn |
| | | | | | | 150 | | | | 155 | | | | | 160 |
| Asn | Ala | Glu | Pro | Ser | Glu | Phe | Glu | Met | Ser | Glu | Asp | Ile | Arg | Leu | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ser | Pro | Asp | Asp | Gly | Ser | Asn | Asn | Leu | Asp | Ser | Asp | Phe | Pro | Met | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Thr | Ile | Asn | Ser | Thr | Ala | Ala | Asp | | | | | | | | |
| | | 195 | | | | | 200 | | | | | | | | |

<210> 744

<211> 327

<212> PRT

<213> Eucalyptus grandis

<400> 744

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Gly | Ser | Cys | Arg | Glu | Pro | Lys | Asp | Gly | Glu | Glu | Ser | Glu | Ala | Thr |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Arg | Ile | Leu | Asn | Leu | Arg | Leu | Glu | Asp | Glu | Gly | Gln | Gln | Arg | Met | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Arg | Val | Leu | Asp | Lys | Leu | His | Thr | Val | Phe | Gly | Gly | Ser | Asp | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Asn | Tyr | Ala | Leu | Gly | Leu | Asp | Arg | Val | Thr | Asp | Met | Glu | Met | Phe |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Phe | Leu | Ala | Ser | Met | Tyr | Phe | Leu | Phe | Pro | Ser | Gly | Glu | Gly | Gly | Pro |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 |
| Gly | Lys | Cys | Phe | Ala | Ser | Glu | Lys | His | Val | Trp | Leu | Thr | Asp | Ala | Leu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Lys | Ser | Ser | Ser | Asp | Tyr | Cys | Val | Arg | Ser | Phe | Leu | Ala | Lys | Ser | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Ile | Arg | Thr | Ile | Val | Leu | Val | Pro | Thr | Asp | Val | Gly | Val | Val | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Gly | Ser | Val | Arg | Ser | Val | Pro | Glu | Ser | Ser | Glu | Leu | Val | Gln | Thr |
| | | 130 | | | | | 135 | | | | | 140 | | | |
| Ile | Arg | Leu | Ser | Phe | Ser | Thr | Asn | Ser | Phe | Met | Ser | Val | Lys | Pro | Ile |
| | | | | | 150 | | | | | 155 | | | | | 160 |
| Ala | Ala | Leu | Pro | Met | Thr | Asn | Glu | Lys | Lys | Asp | Glu | Asn | Ala | Pro | Phe |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ser | Asn | Leu | Ala | Leu | Ala | Gly | Lys | Gly | Glu | Ala | Ile | Ser | Lys | Ile | Phe |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gly | Lys | Glu | Leu | Thr | Thr | Val | Asn | Ser | Pro | Gly | His | Tyr | Arg | Glu | Lys |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Ala | Val | Arg | Lys | Met | Asp | Ser | Arg | Gln | Ser | Trp | Glu | Pro | His | His |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Asn | Gly | Ser | Lys | Leu | Pro | Phe | Ser | Thr | Pro | Arg | Asn | Gly | Thr | Gln | Asp |
| | | | | | 230 | | | | | 235 | | | | | 240 |
| Thr | Ser | Trp | Ala | His | His | Ala | His | Gly | Val | Lys | Gln | Leu | Ser | Pro | Val |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Glu | Phe | Tyr | Gly | Ser | Gln | Thr | Ser | Ala | Ser | Lys | Leu | Glu | Glu | Arg | Met |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asn | Ser | Gly | Arg | Asn | Asp | Phe | Gly | Leu | Asn | Arg | Tyr | Pro | Thr | Pro | Lys |
| | | 275 | | | | | 280 | | | | | 285 | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Met | Gln | Ile | Asp | Phe | Thr | Gly | Ala | Thr | Ser | Arg | Pro | Ser |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Val | Ile | Thr | Arg | Pro | Phe | Thr | Ala | Asp | Ser | Glu | His | Ser | Asp | Val | Glu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ala | Ser | Cys | Lys | Glu | Glu | Gln | | | | | | | | | |
| | | | | 325 | | | | | | | | | | | |

<210> 745
 <211> 361
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 745 | | | | | | | | | | | | | | | |
| Met | Met | Met | Met | Thr | Met | Ala | Ala | Gly | Gly | Gly | Asp | His | His | Ala | Arg |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ser | Thr | Pro | Thr | Val | Gln | Ile | Pro | Pro | Val | Trp | Asp | Pro | Leu | Asp | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Ala | Thr | Gly | Gly | Cys | Gly | Gly | Pro | Tyr | Ser | Pro | Tyr | Ser | Pro | Tyr |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ser | Pro | Tyr | Ser | Gly | Gly | Gly | Asn | Ala | Gly | Gly | Ala | Ala | Gly | Gly | Gly |
| 50 | | | | | 55 | | | | | | 60 | | | | |
| Glu | Cys | Cys | Asn | Asp | Leu | Thr | Ala | Leu | Arg | Arg | Phe | Leu | Pro | Ser | Asn |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| His | His | Gln | Asp | Glu | Glu | Asp | Glu | Glu | Asp | Gly | Arg | Ala | Pro | Gly | Glu |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Asp | Gly | Val | Leu | Gly | Cys | Asp | Glu | Phe | Arg | Met | Tyr | Glu | Phe | Lys | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Lys | Cys | Ala | Arg | Gly | Arg | Ser | His | Asp | Trp | Thr | Glu | Cys | Pro | Tyr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | His | Pro | Gly | Glu | Lys | Ala | Arg | Arg | Arg | Asp | Pro | Arg | Arg | Phe | Phe |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Tyr | Ser | Gly | Thr | Ala | Cys | Pro | Asp | Phe | Arg | Lys | Gly | Ala | Cys | Lys | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gly | Asp | Thr | Cys | Glu | Phe | Ala | His | Gly | Val | Phe | Glu | Cys | Trp | Leu | His |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Pro | Glu | Arg | Tyr | Arg | Thr | Gln | Ala | Cys | Lys | Asp | Gly | Gln | Ser | Cys | Arg |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Arg | Arg | Val | Cys | Phe | Phe | Ala | His | Ser | Pro | Asp | Gln | Leu | Arg | Val | Leu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Pro | Ala | His | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | His | Ser |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Pro | Lys | Ser | Ala | Thr | Asp | Ser | Glu | Phe | Gly | Ser | Pro | Val | Arg | Pro | Ser |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Ala | Ala | Ala | Ala | Ala | Phe | Asp | Ser | Tyr | Phe | Thr | Lys | Pro | Trp | Ser |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Ala | Ser | Phe | Ile | Ser | Ser | Pro | Thr | Ser | Ile | Leu | Thr | Thr | Ser | Ser | Pro |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Pro | Ile | Ser | Pro | Pro | Thr | Asn | Ser | Pro | Pro | Met | Ser | Pro | Asn | Gln | Arg |
| | | 275 | | | | 280 | | | | | | 285 | | | |
| Gly | Gly | Cys | Cys | Gly | Ser | Pro | Gly | Ser | Val | Ser | Glu | Leu | Val | Ala | Cys |
| | | 290 | | | | 295 | | | | | 300 | | | | |
| Met | Arg | Asn | Met | Gln | Ile | Ala | Lys | Met | Lys | Met | Ser | Pro | Arg | Gly | Gln |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Met | Gly | Gly | Ser | Leu | Phe | Gly | Ser | Pro | Leu | Arg | Pro | Gly | Cys | His | Leu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ala | Ala | Pro | Val | Thr | Pro | Arg | Ala | Glu | Ser | Ser | Pro | Arg | Tyr | Gly | Gln |
| | | | 340 | | | | | 345 | | | | | 350 | | |

Leu Gly Gly Gly Gly Gly Gly Gly Leu
 355 360

<210> 746
 <211> 78
 <212> PRT
 <213> Eucalyptus grandis

<400> 746
 Leu Ile Arg Trp Arg Lys His Arg Arg Val Arg Trp Ala Val Gly Ala
 1 5 10 15
 Thr Arg Ala Ala Ser Arg Ala Arg Ser Ser Gly Gly Val Arg Glu
 20 25 30
 Gln Asp Arg Tyr Leu Pro Ile Ala Asn Ile Ser Arg Ile Met Lys Lys
 35 40 45
 Ala Leu Pro Ala Asn Gly Lys Ile Ala Lys Asp Ala Lys Asp Thr Val
 50 55 60
 Gln Glu Cys Val Ser Glu Phe Ile Ser Phe Ile Thr Ser Glu
 65 70 75

<210> 747
 <211> 278
 <212> PRT
 <213> Eucalyptus grandis

<400> 747
 Met Ala Thr Pro Asp Glu Arg Pro Ser Ser Ser Ser Ser Ala Ala Ser
 1 5 10 15
 Ala Val Ala Ile Arg Gln Val Trp Ala Trp Asn Leu Asp Ala Glu Phe
 20 25 30
 Gly Leu Ile Arg Asp Leu Ile Asp Arg Tyr Pro Phe Val Ser Met Asp
 35 40 45
 Thr Glu Phe Pro Gly Leu Val Phe Arg Arg Pro Ala Gly Ala Gly Ala
 50 55 60
 Gly Ala Arg Pro Ser Pro Ser Asp His Tyr Arg Leu Leu Lys Ser Asn
 65 70 75 80
 Val Asp Ala Leu Ser Leu Ile Gln Val Gly Leu Thr Leu Ser Asp Ala
 85 90 95
 Arg Gly Gly Leu Pro Gly Phe Ile Trp Glu Phe Asn Phe Arg Glu Phe
 100 105 110
 Asp Ala Ala Arg Asp Pro His Ala Pro Asp Ser Ile Glu Leu Leu Arg
 115 120 125
 Arg Gln Gly Val Asp Phe Asp Arg Asn Arg Ala Glu Gly Ile Asp Ser
 130 135 140
 Ala Arg Phe Ala Glu Leu Val Met Ser Ser Gly Leu Val Cys Asn Asp
 145 150 155 160
 Ala Val Ser Trp Val Thr Phe His Ser Ala Tyr Asp Phe Gly Tyr Leu
 165 170 175
 Val Lys Ala Leu Thr Arg Arg Glu Leu Pro Gly Asp Leu Pro Glu Phe
 180 185 190
 Leu Ala Val Val Arg Val Phe Phe Gly Asp Arg Val Tyr Asp Val Lys
 195 200 205
 His Leu Met Arg Phe Cys His Ser Leu His Gly Gly Leu Asp Arg Val
 210 215 220
 Ala Ala Ala Leu Glu Leu Asp Arg Ala Val Gly Lys Cys His Gln Ala
 225 230 235 240
 Gly Ser Asp Ser Leu Leu Thr Trp Gln Ala Phe Arg Lys Ile Arg Asp

<213> Eucalyptus grandis

<400> 750

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Met Pro Ile Arg Ile Gln Asn Leu Pro Lys Lys Asn Phe Asp Gln Gly
 1          5          10          15
Ser Ser Leu Ser Met Pro His Val Gly Val Thr Tyr Pro Pro Trp Trp
          20          25          30
Ser Leu Asn Glu Gln Gln Leu Pro Gln Ser Leu Pro Lys Asn Ser Gly
          35          40          45
Leu Lys Ala Glu Ser Pro Pro Met Leu His His Gln Ala Lys His Leu
 50          55          60
Gly Leu Gln Leu Gln Glu Gln Glu Ser Ser Ser Thr Gln Ser Ala Gly
65          70          75          80
Asn Ser Cys His Glu Val Ser Val Val Gly Gly Ala Asn Ser Gln Asp
          85          90          95
Gln Ser Ile Ser Ser Glu Ser Gly Gln Asp Glu Ser Cys Gly Arg Ser
          100          105          110
Phe Glu Gly Gln Thr Lys Pro Ile Phe Met Phe Asn Asn Pro Glu Ile
          115          120          125
Val Phe Asn Ser Ser Leu Ala Asp Gln Asn Gln Pro Leu Ile Arg Val
          130          135          140
Pro Tyr Pro Pro Val Asp Pro Tyr Tyr Gly Gly Leu Leu Thr Ala Tyr
145          150          155          160
Arg Pro Gln Ala Ile Ile Gln Ser Gln Val Gly Ser Gln Met Phe Gly
          165          170          175
Met Ala Pro Gly Arg Val Pro Leu Pro Leu Asn Leu Ala Asp His Gly
          180          185          190
Pro Ile Tyr Val Asn Ala Lys Gln Tyr Ser Arg Asn Ser Ser Glu Glu
          195          200          205
Ala Val
          210

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<210> 751

<211> 93

<212> PRT

<213> Eucalyptus grandis

<400> 751

```

Gly Tyr Gly Phe Val Arg Phe Gly Asp Glu Thr Glu Gln Leu Arg Ala
 1          5          10          15
Met Thr Glu Met Asn Gly Met Tyr Cys Ser Ser Arg Pro Met Arg Ile
          20          25          30
Gly Pro Ala Ala Asn Lys Lys Pro Ile Ala Thr Gln Gln Tyr Gln Ser
          35          40          45
Ala Ser Tyr Gln Asn Ser Gln Gly Asn Gln Gly Glu Asn Asp Pro Asn
 50          55          60
Asn Thr Thr Ile Phe Val Gly Gly Leu Asp Pro Ser Val Ser Asp Asp
65          70          75          80
Leu Leu Arg Gln Val Phe Ser Gln Tyr Gly Glu Leu His
          85          90

```

<210> 752

<211> 97

<212> PRT

<213> Eucalyptus grandis

<400> 752

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Tyr | Arg | Arg | Ser | Ala | Lys | Lys | Cys | Lys | Glu | Lys | Phe | Glu | Asn | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| His | Lys | Tyr | Tyr | Lys | Arg | Thr | Lys | Glu | Gly | Arg | Ala | Gly | Arg | Gln | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Lys | Thr | Tyr | Lys | Phe | Phe | Ser | Glu | Leu | Glu | Ala | Leu | His | Asn | Thr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Ala | Gly | Ala | Thr | Val | Gly | Ile | Ser | Ser | Ser | Phe | Lys | Trp | Trp | Trp |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Cys | Cys | Phe | Trp | His | Cys | Ser | Pro | Gly | Arg | Ser | Leu | Gly | Thr | Pro | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Phe | Asp | Arg | Asp | Ile | Val | Arg | Gln | Pro | Arg | Pro | Asn | Leu | His | Cys | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |

Arg

<210> 753
 <211> 241
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Met | Glu | Asp | His | His | Gln | Tyr | Thr | Ala | Ala | Asp | Leu | Arg | His |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Ile | Asn | Ala | Arg | Pro | Pro | Pro | Pro | Pro | Pro | His | Ile | Gln | Ser | Ile |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Pro | Pro | Glu | Leu | Phe | Cys | Gly | Gly | Gly | Gly | His | Arg | Asn | Pro | Thr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | His | Leu | Glu | Ser | Met | Met | Met | Gly | Gly | Gly | Gly | Leu | His | Asn | Gly |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Gln | Arg | Gln | Gly | His | Ser | His | Asn | His | Gln | His | His | His | Gln | Phe | Gly |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Arg | Asp | His | Ser | Ser | Pro | Ser | Ser | Val | Ala | Met | Ala | Gly | Ala | Ala | Gly |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Gly | Leu | Glu | Ser | Glu | Asn | Gly | Gly | Asn | Gly | Arg | Trp | Pro | Arg | Gln | Glu |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Thr | Leu | Thr | Leu | Leu | Glu | Ile | Arg | Ser | Arg | Leu | Asp | Ser | Arg | Phe | Lys |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Glu | Ala | Asn | Gln | Lys | Gly | Pro | Leu | Trp | Asp | Glu | Val | Ser | Arg | Ile | Met |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ser | Glu | Glu | His | Gly | Tyr | Gln | Arg | Ser | Gly | Lys | Lys | Cys | Arg | Glu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Phe | Glu | Asn | Leu | Tyr | Lys | Tyr | Tyr | Lys | Lys | Thr | Lys | Glu | Gly | Lys | Ala |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Gly | Arg | Gln | Asp | Gly | Lys | His | Tyr | Arg | Phe | Phe | Arg | Gln | Leu | Glu | Ala |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Leu | Tyr | Gly | Glu | Asn | Ala | Asn | Ser | Asn | Ser | Ile | Leu | Gln | Ala | Pro | Ser |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Pro | His | Ser | Leu | His | Phe | His | Pro | Pro | Pro | Asn | Ile | Asn | Asp | Ile |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Asn | Gln | Asp | Ala | Ser | His | His | Arg | His | Pro | His | Gln | Leu | Gln | Arg | Pro |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |

Cys

<210> 754
 <211> 104
 <212> PRT

<213> Eucalyptus grandis

<400> 754

Met Glu Arg Gly Asp Pro Asn Val Val Ala Val Ala Arg Leu Arg Arg
1 5 10 15
Glu Asp Cys Glu Arg Thr Lys His Asp Ser Ala Phe Ala Thr Trp Lys
20 25 30
Val Leu Val Gly Pro Thr Asp Trp Glu Asp Tyr Ser Leu Gly Lys Glu
35 40 45
Gly Ala Ala Arg Tyr Arg Val His Asn Leu Pro Lys Ser Pro Gly Pro
50 55 60
Gly Ile Tyr Glu Leu Gly Val Ala Ala Ser His Ala Lys Leu Gly Arg
65 70 75 80
Glu Ile Ala Lys Leu Asp Pro Arg Tyr Ile Val Val Val Tyr Leu Gly
85 90 95
Lys Ala Asp Cys Val Arg Thr Arg
100

<210> 755

<211> 229

<212> PRT

<213> Eucalyptus grandis

<400> 755

Met Gly Tyr Ala Gln Leu Val Ile Gly Pro Ala Gly Ser Gly Lys Ser
1 5 10 15
Thr Tyr Cys Ser Ser Leu Tyr Gln His Cys Glu Ala Ile Gly Arg Thr
20 25 30
Ile His Ile Val Asn Leu Asp Pro Ala Ala Glu Asn Phe Asp Tyr Pro
35 40 45
Val Ala Met Asp Ile Arg Glu Leu Ile Ser Leu Asp Asp Val Met Glu
50 55 60
Glu Leu Gly Leu Gly Pro Asn Gly Gly Leu Met Tyr Cys Met Glu His
65 70 75 80
Leu Glu Glu Asn Leu Asp Asp Trp Leu Thr Glu Glu Leu Asp Asn Tyr
85 90 95
Leu Asp Asp Asp Tyr Leu Val Phe Asp Cys Pro Gly Gln Ile Glu Leu
100 105 110
Phe Ser His Val Pro Val Leu Arg Asn Phe Val Glu His Leu Gln Arg
115 120 125
Lys Asn Phe Asn Val Cys Gly Val Tyr Leu Leu Asp Ser Gln Phe Ile
130 135 140
Thr Asp Val Thr Lys Phe Ile Ser Gly Cys Met Ala Ser Leu Ser Ala
145 150 155 160
Met Val Gln Leu Glu Leu Pro His Val Asn Ile Leu Ser Lys Met Asp
165 170 175
Leu Val Lys Asn Lys Arg Asp Ile Asp Asp Tyr Leu Asn Pro Glu Pro
180 185 190
Arg Val Leu Leu Ser Glu Leu Asn Gln Thr Met Ala Pro Lys Phe Glu
195 200 205
Lys Leu Asn Lys Ala Leu Ala Glu Leu Val Asp Glu Tyr Ser Met Val
210 215 220
Ser Phe Ile Pro Leu
225

<210> 756

<211> 81

<212> PRT
 <213> Eucalyptus grandis

<400> 756
 Tyr Pro Thr Ile Ile Tyr Arg Pro Tyr Ser Phe Met Ala Lys Ile Ser
 1 5 10 15
 Ala Val Glu Arg Gly His Phe Leu Thr Val Ile Pro His Phe Ala Trp
 20 25 30
 Arg Leu Val Asn Pro Ala Thr Leu Lys Tyr Phe Asp Ala Pro His Arg
 35 40 45
 Pro Met Tyr Met Gln Glu Tyr Leu Tyr Ser Ile Arg Asn His Arg Tyr
 50 55 60
 Thr Ala Thr Met Leu Gln His Ile Ala Glu Asp Arg Asp Gly Thr Ser
 65 70 75 80
 His

<210> 757
 <211> 115
 <212> PRT
 <213> Eucalyptus grandis

<400> 757
 Met Pro Lys Gly Ser Ser Ile Lys Met Gly Val Pro Leu Gln His Ser
 1 5 10 15
 Ser Gly Ile Lys Gln Leu Asn Val His Phe Gln Glu Arg Asp Leu Cys
 20 25 30
 Ser Thr Gln Ser Thr Ser Gln Ser Phe Ser Glu Val Pro Asn Ile Gly
 35 40 45
 Gly Ser Thr Asp Cys Ser Gln Ala Thr Val Leu Glu Gln Thr Glu His
 50 55 60
 Gly Glu Thr Glu Gly Gln Ser Val Arg Gly Gln Ala Lys Ser Ala Leu
 65 70 75 80
 Ser Met Gly Thr Gln Asp Leu Val Phe Gln Pro Leu Glu Val Cys Ile
 85 90 95
 Pro Leu His Tyr Ala Glu Pro Ser Leu Gly Gly Phe Met Pro Ala Ala
 100 105 110
 Tyr Gly Pro
 115

<210> 758
 <211> 356
 <212> PRT
 <213> Eucalyptus grandis

<400> 758
 Met Lys Glu Arg Gln Arg Trp Arg Ala Glu Glu Asp Ala Leu Leu Arg
 1 5 10 15
 Ala Tyr Val Lys Gln Tyr Gly Pro Arg Glu Trp His Leu Val Ser Gln
 20 25 30
 Arg Met Asn Thr Pro Leu Asn Arg Asp Ala Lys Ser Cys Leu Glu Arg
 35 40 45
 Trp Lys Asn Tyr Leu Lys Pro Gly Ile Lys Lys Gly Ser Leu Ser Glu
 50 55 60
 Glu Glu Gln Arg Leu Val Ile Gln Leu Gln Ala Lys His Gly Asn Lys
 65 70 75 80
 Trp Lys Lys Ile Ala Ala Glu Ile Pro Gly Arg Thr Ala Lys Arg Leu

<212> PRT
 <213> Eucalyptus grandis

<400> 760
 Glu Asp Pro Val Gly Arg Pro Glu Ser Ala Ser Glu Ile Ser Gln Glu
 1 5 10 15
 Pro Gly Gln Glu Phe Met Asp Glu Asp Glu Leu Leu Asn Met Pro Lys
 20 25 30
 Leu Leu Asp Asp Met Ala Glu Gly Met Leu Val Ser Pro Pro Arg Thr
 35 40 45
 Gln Met Ala Ser Glu Asn Asp Ser Pro Glu Asp Ser Asp Gly Gly Glu
 50 55 60
 Ser Leu Trp Ser Tyr Pro
 65 70

<210> 761
 <211> 243
 <212> PRT
 <213> Eucalyptus grandis

<400> 761
 Met Cys Gly Gly Ala Ile Ile Ser Asp Phe Val Glu Glu Arg Leu Asp
 1 5 10 15
 Arg Arg Arg Pro Gly Ser Cys Arg Pro Glu Arg Lys Leu Thr Pro His
 20 25 30
 Glu Leu Trp Ser Glu Leu Asp Pro Ala Ser Asp Leu Leu Ser Leu Asp
 35 40 45
 Gly Pro Val Ala Gln Gly His Pro Asn Pro Phe Ser Leu Val Ala Asn
 50 55 60
 Gln Leu Asn Gln Val Met Lys Ser Glu Glu Lys Asn Ser Glu Glu Ala
 65 70 75 80
 Gly His Gly His Val Ser Glu Thr Gln Lys Ser Gln Ser Asn Gly Arg
 85 90 95
 Ser Gln Arg Ala Arg Lys Asn Val Tyr Arg Gly Ile Arg Gln Arg Pro
 100 105 110
 Trp Gly Lys Trp Ala Ala Glu Ile Arg Asp Pro His Lys Gly Val Arg
 115 120 125
 Val Trp Leu Gly Thr Phe Lys Thr Ala Glu Glu Ala Ala Arg Ala Tyr
 130 135 140
 Asp Glu Ala Ala Lys Arg Ile Arg Gly Asp Lys Ala Lys Leu Asn Phe
 145 150 155 160
 Ser Gly Pro Pro Ala Pro Ala Gln Pro Ser Ala Lys Lys Arg Cys Val
 165 170 175
 Ala Pro Asp Glu Pro Lys Asp Glu Ala Gly Ala Ala Gly Cys Glu Leu
 180 185 190
 Lys Glu Arg Ile Ala Ser Leu Glu Ser Phe Leu Glu Leu Glu Pro Thr
 195 200 205
 Glu Glu Pro Leu Glu Pro Gly Thr Gly Pro Ser Pro Ala Asp Leu Trp
 210 215 220
 Met Leu Glu Asp Leu Val Thr His His Gln His Arg Phe Asp Asn Gln
 225 230 235 240
 Leu Val Tyr

<210> 762
 <211> 125
 <212> PRT

<213> Eucalyptus grandis

<400> 762

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Gln | Arg | Leu | Leu | Gln | Tyr | Trp | Ser | Asp | Ala | Leu | Asn | Leu | Ser | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gly | Arg | Met | Met | Met | Met | Asn | Arg | Leu | Gly | Pro | Asp | Gly | Arg | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ile | Phe | Arg | Pro | Pro | Gln | Pro | Ile | Asn | Thr | Thr | Lys | Leu | Tyr | Arg | Gly |
| | | 35 | | | | | 40 | | | | | | 45 | | |
| Val | Arg | Gln | Arg | His | Trp | Gly | Lys | Trp | Val | Ala | Glu | Ile | Arg | Leu | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Asn | Arg | Thr | Arg | Leu | Trp | Leu | Gly | Thr | Phe | Asp | Thr | Ala | Glu | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | Ala | Leu | Ala | Tyr | Asp | Arg | Glu | Ala | Phe | Lys | Leu | Arg | Gly | Glu | Asn |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Arg | Leu | Asn | Phe | Pro | Glu | Leu | Phe | Leu | Asn | Lys | Asp | Lys | Ala | Glu |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Glu | Ser | Ala | Gly | Pro | Ser | Ser | Ser | Ser | Ser | Ser | Pro | Pro | | | |
| | | 115 | | | | | 120 | | | | | | 125 | | |

<210> 763

<211> 141

<212> PRT

<213> Eucalyptus grandis

<400> 763

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Ile | Pro | Ser | Val | Gly | Leu | Leu | Val | Gln | Tyr | Lys | Leu | Leu | Asn | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Ser | Ser | Tyr | Ser | Ser | Cys | Ile | Met | Ile | Gln | Asp | Met | Ser | Gln | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Arg | Lys | Ile | Asp | Thr | Asp | Arg | Trp | Glu | Phe | Ala | Asn | Arg | Gly | Phe |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Glu | Gly | Lys | Lys | His | Leu | Leu | Lys | Asn | Ile | Arg | Arg | Arg | Arg | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Ser | Asp | His | Arg | Thr | Thr | Ser | Ser | Ser | Thr | Val | Ala | Ser | Asp | Tyr |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 |
| Pro | Glu | Ala | Gly | Lys | Glu | Ala | Glu | Leu | Glu | Met | Leu | Lys | Arg | Asp | Gln |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Glu | Ala | Leu | Lys | Ala | Glu | Ile | Leu | Lys | Leu | Arg | Glu | Glu | Arg | Glu | Asn |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Gln | His | Glu | Ile | Asn | Gln | Val | Ile | Glu | Arg | Phe | Arg | Tyr | Ala | Glu |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Cys | Arg | Cys | Arg | Arg | Met | Phe | Leu | Phe | Leu | Ser | Lys | Ala | | | |
| | 130 | | | | | 135 | | | | | | 140 | | | |

<210> 764

<211> 202

<212> PRT

<213> Eucalyptus grandis

<400> 764

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | His | Leu | Leu | Asn | Asn | Ile | Tyr | Arg | Arg | Lys | Pro | Ile | His | Ser | His |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Gly | Gln | Gly | Ala | Arg | Leu | Ser | Asp | Ser | Glu | Lys | Gln | Met | Tyr | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Glu | Ile | Lys | Arg | Leu | Arg | His | Glu | Lys | Ser | Ser | Leu | Gln | Leu | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |

Glu Ser Asp Leu Gln Asp Lys Ala Leu Gln Leu Gly Thr Ile Val Pro
100 105 110
Pro Arg Pro Ala Ala Cys Gly Ile Gln Ala Leu Ala Ser Thr Thr Pro
115 120 125
Arg Ser Gly Gln Gln Leu Pro Tyr Arg Asn Pro Tyr Gln Asn Pro Tyr
130 135 140
Tyr Ser Ala Asn Ser
145

<210> 774
<211> 175
<212> PRT
<213> Eucalyptus grandis

<400> 774
Met Val Lys Arg Asp Arg Glu Asp Thr Glu Val Glu Ala Leu Ala Arg
1 5 10 15
Ala Asn Cys Leu Met Leu Leu Ser Arg Val Gly Glu Ser Thr Asp Ser
20 25 30
Ala Ser Pro Asp Arg Lys Ser Arg Pro Thr Glu Arg Met Phe Ala Cys
35 40 45
Lys Thr Cys Asn Arg Glu Phe Ser Ser Phe Gln Ala Leu Gly Gly His
50 55 60
Lys Ala Ser His Lys Lys Pro Lys Leu Ile Ser Gly Asp Leu Phe His
65 70 75 80
Leu Gly His Ala Ala Asp Ser Ser Pro Ala Lys Pro Lys Thr His Glu
85 90 95
Cys Ser Ile Cys Gly Leu Asp Phe Pro Met Gly Gln Ala Leu Gly Gly
100 105 110
His Met Arg Arg His Arg Ala Ala Met Leu Glu Ser Leu Ala Ala Ala
115 120 125
Ala Ala Lys Pro Val Pro Val Leu Lys Lys Ser Asn Ser Lys Arg Val
130 135 140
Thr Gly Leu Asp Leu Asn Ser Leu Pro Met Glu Asp Asp Leu Thr Leu
145 150 155 160
Arg Leu Gly Lys Val Ala Pro Pro Leu Val Leu Asp Leu Val Leu
165 170 175

<210> 775
<211> 154
<212> PRT
<213> Eucalyptus grandis

<400> 775
Pro Asp Ala Ala Gly Glu Arg Leu Gly His Gly Asp Gln Glu Glu Pro
1 5 10 15
Leu Gly Val Gly Val Gly Leu Pro Gly Arg Ala Tyr Phe Ser Ser
20 25 30
Asn Pro Ala Trp Val Thr Gly Ala Glu Arg Leu Gly Asn Cys Gly Cys
35 40 45
Asp Arg Ala Arg Gln Ala Gln Ile Phe Gly Leu Gln Thr Ile Ala Cys
50 55 60
Val Pro Val Leu Asn Gly Val Val Glu Leu Gly Ser Thr Glu Pro Ile
65 70 75 80
Tyr Gln Ser Ser Asp Leu Ile Ser Gly Ile Arg Gly Leu Phe Asn Phe
85 90 95
His Glu Ser Glu Met Gly Cys Gly Gly Arg Val Leu Asn Ser Glu His

<212> PRT
 <213> Eucalyptus grandis

<400> 780

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Glu | Pro | Ile | Phe | Leu | Pro | Gly | Arg | Thr | Ser | Leu | Val | Gly | Ser |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ile | Ser | Val | Asn | Val | Val | Gly | Ile | Gln | His | Asn | Ala | Gly | Thr | Phe | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Gly | Glu | Thr | Val | Ala | Leu | Val | Arg | Glu | Pro | Ser | Asn | Thr | Asp | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Met | Ala | Ile | Gln | Val | Leu | Asn | Thr | Arg | Gly | Met | Val | Val | Gly | Tyr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ile | Lys | Arg | Glu | Ala | Ala | Lys | Val | Leu | Ala | Pro | Leu | Ile | Asp | Ser | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Ile | Ser | Val | Tyr | Ala | Ile | Val | Pro | Lys | Val | Pro | Arg | Val | Glu | Lys |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Leu | Phe | Phe | Ile | Asn | Cys | Gln | Val | Arg | Val | Leu | Ala | Arg | Asp | Asp | Asp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Glu | His | Val | Lys | Ser | Thr | Ile | Leu | Glu | Gly | Lys | Leu | Met | Leu | Thr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Pro | Val | Gly | Lys | Glu | Val | Arg | Gly | Val | Asn | Glu | Ser | Phe | Thr | Leu |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Val | Gly | Gln | Gly | Val | Glu | Lys | | | | | | | | | |
| 145 | | | | | | 150 | | | | | | | | | |

<210> 781
 <211> 611
 <212> PRT
 <213> Eucalyptus grandis

<400> 781

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Met | Met | Phe | Glu | Asp | Met | Gly | Ile | Cys | Gly | Asp | Leu | Asp | Phe | Phe |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ser | Ala | Pro | Leu | Gly | Glu | Gly | His | Gly | Val | Ala | Pro | Gln | Thr | Glu | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ala | Thr | Val | Glu | Asp | Asp | Tyr | Ser | Asp | Glu | Glu | Ile | Asp | Val | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Leu | Glu | Arg | Arg | Met | Trp | Arg | Asp | Lys | Met | Arg | Leu | Lys | Arg | Leu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Lys | Glu | Gln | Asn | Lys | Gly | Lys | Glu | Gly | Val | Asp | Ile | Ala | Lys | Gln | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gln | Ser | Gln | Glu | Gln | Ala | Arg | Arg | Lys | Lys | Met | Ser | Arg | Ala | Gln | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Gly | Ile | Leu | Lys | Tyr | Met | Leu | Lys | Met | Met | Glu | Val | Cys | Lys | Ala | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Phe | Val | Tyr | Gly | Ile | Ile | Pro | Glu | Lys | Gly | Lys | Pro | Val | Thr | Gly |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ser | Asp | Asn | Leu | Arg | Glu | Trp | Trp | Lys | Asp | Lys | Val | Arg | Phe | Asp |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Arg | Asn | Gly | Pro | Ala | Ala | Ile | Ala | Lys | Tyr | Gln | Ala | Asp | His | Ser | Val |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Pro | Gly | Lys | Asn | Asp | Gly | Cys | Asn | Pro | Ile | Gly | Pro | Thr | Pro | His | Thr |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Leu | Gln | Glu | Leu | Gln | Asp | Thr | Thr | Leu | Gly | Ser | Leu | Leu | Ser | Ala | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Met | Gln | His | Cys | Asp | Pro | Pro | Gln | Arg | Arg | Phe | Pro | Leu | Glu | Lys | Gly |
| | | 195 | | | | | 200 | | | | | 205 | | | |

<212> PRT
<213> Eucalyptus grandis

<400> 786

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Thr | Ser | Pro | Ser | Ser | Ser | Ser | Leu | Thr | Thr | Thr | Thr | Ala | Pro | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Thr | Thr | Ser | Ser | Ser | Ser | Tyr | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ala | Val | Ala | Val | Ala | Ala | Thr | Thr | Ala | Thr | Thr | Ser | Ser | Ser | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Ser | Ser | Thr | Gly | Ser | Asp | Pro | Ala | Leu | Glu | Pro | Ser | Lys | Arg | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Asp | Cys | Thr | Ser | Gln | Lys | Gly | Pro | Gly | Lys | Ser | Pro | Ser | Pro | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | His | Pro | Glu | Glu | Pro | Ala | Gly | Lys | Arg | His | Lys | Ala | Gly | Gly | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gly | Glu | His | Pro | Thr | Tyr | Arg | Gly | Val | Arg | Met | Arg | Asn | Trp | Gly | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Trp | Val | Ser | Glu | Ile | Arg | Glu | Pro | Arg | Lys | Lys | Ser | Arg | Ile | Trp | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gly | Thr | Tyr | Pro | Thr | Ala | Glu | Met | Ala | Ala | Arg | Ala | His | Asp | Val | Ala |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ala | Leu | Ala | Ile | Lys | Gly | Ser | Phe | | | | | | | | |
| 145 | | | | | | 150 | | | | | | | | | |

<210> 787
<211> 148
<212> PRT
<213> Eucalyptus grandis

<400> 787

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Pro | Arg | Pro | Lys | Val | Asp | Pro | Ala | Ser | Ala | Gly | Thr | Val | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ile | Arg | Glu | Val | Trp | Ala | His | Asn | Leu | Glu | Ser | Glu | Phe | Asp | Leu | Ile |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Asp | Val | Val | Asp | Thr | His | Pro | Phe | Ile | Ser | Met | Asp | Thr | Glu | Phe |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Gly | Val | Val | Phe | Arg | Pro | Pro | Pro | Pro | Pro | Ser | Ala | Gly | Gly | His |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Tyr | Arg | Arg | Leu | Arg | Pro | Ser | Asp | His | Tyr | Arg | Leu | Leu | Lys | Ser | Asn |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Val | Asp | Ala | Leu | Ser | Leu | Ile | Gln | Val | Gly | Leu | Thr | Phe | Ser | Asp | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Gly | Asn | Leu | Pro | Asp | Leu | Gly | Cys | Pro | Gly | Gly | Pro | Arg | Tyr | Ile |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Trp | Glu | Phe | Asn | Phe | Arg | Asp | Phe | Asp | Val | Ala | Arg | Asp | Ala | His | Ala |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Asp | Ser | Ile | Glu | Leu | Leu | Arg | Arg | Gln | Gly | Ile | Asp | Phe | Glu | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asn | Arg | Ala | Glu | | | | | | | | | | | | |
| 145 | | | | | | | | | | | | | | | |

<210> 788
<211> 248
<212> PRT
<213> Eucalyptus grandis

<400> 788
 Lys Pro Ser Glu Arg Arg Gly Gly Pro Arg Gly Pro Phe Arg Gly Ser
 1 5 10 15
 Gly Gly Arg Arg Gly Gly Phe Asn Asn Gly Glu Ala Gly Glu Gly Glu
 20 25 30
 Arg Pro Arg Arg Thr Phe Glu Arg Arg Ser Gly Thr Gly Arg Gly Asn
 35 40 45
 Glu Phe Lys Arg Asp Gly Ala Gly Arg Gly Asn Trp Gly Thr Pro Thr
 50 55 60
 Asp Glu Ile Ala Pro Glu Pro Glu Glu Pro Val Val Glu Val Glu Lys
 65 70 75 80
 Asn Val Gly Ser Glu Lys Gln Leu Val Asp Glu Glu Ala Ala Asp Ala
 85 90 95
 Ser Lys Glu Asn Pro Leu Asn Glu Pro Glu Glu Lys Glu Pro Glu Asp
 100 105 110
 Lys Glu Met Thr Leu Glu Glu Tyr Glu Lys Val Arg Glu Glu Lys Arg
 115 120 125
 Lys Ala Leu Leu Ala Leu Lys Ala Glu Glu Arg Lys Val Glu Val Asp
 130 135 140
 Lys Glu Leu Lys Ser Met Gln Gln Leu Ser Ser Lys Lys Glu Asn His
 145 150 155 160
 Asp Ile Phe Ile Lys Leu Gly Ser Glu Lys Asp Lys Arg Lys Glu Ala
 165 170 175
 Ala Glu Lys Glu Glu Arg Ala Glu Lys Ser Val Ser Ile Asn Glu Phe
 180 185 190
 Leu Lys Pro Ala Glu Gly Glu Arg Tyr Tyr Asn Pro Gly Gly Arg Gly
 195 200 205
 Arg Gly Arg Gly Arg Gly Ala Arg Gly Gly Tyr Gly Gly Gly Gly Gly
 210 215 220
 Gly Gly Tyr Gly Arg Asp Ala Ala Ala Pro Ser Ile Lys Asp Pro Gly
 225 230 235 240
 Gln Phe Pro Ser Leu Gly Gly Lys
 245

<210> 789
 <211> 55
 <212> PRT
 <213> Eucalyptus grandis

<400> 789
 Met Ser Phe Thr Gly Thr Gln Val Lys Cys Lys Ala Cys Glu Lys Thr
 1 5 10 15
 Val Tyr Pro Val Glu Gln Leu Ser Ala Asp Gly Val Ala Tyr His Lys
 20 25 30
 Ser Cys Phe Lys Cys Ser His Cys Lys Gly Thr Leu Lys Val Cys Gln
 35 40 45
 Phe Phe Gln Leu Val Tyr Asn
 50 55

<210> 790
 <211> 148
 <212> PRT
 <213> Eucalyptus grandis

<400> 790
 Met Ile Asp Leu Asn Thr Val Glu Asp Asp Glu Thr Pro Ser Ser Gly
 1 5 10 15

Ser Ser Pro Ala Ser Ser Leu Ser Ser Ala Ile Ser Ala Ser Asn Ile
20 25 30
Asn Ser Asn Pro Ala Tyr Pro Thr Ser Ser Ser Ser Ser Ser Ser
35 40 45
Cys Ser Pro Leu Cys Leu Glu Leu Trp His Ala Cys Ala Gly Pro Leu
50 55 60
Ile Ser Leu Pro Lys Arg Gly Ser Leu Val Val Tyr Phe Pro Gln Gly
65 70 75 80
His Leu Glu His Val Ser Asp Phe Pro Thr Ser Val Phe Asp Leu Pro
85 90 95
Ser Gln Ile Phe Cys Arg Val Val Asp Val Lys Leu His Ala Asp Ala
100 105 110
Ser Thr Asp Asp Val Tyr Ala Gln Val Ser Leu Val Pro Glu Arg Glu
115 120 125
Gln Ile Glu His Lys Leu Arg Glu Gly Asp Asn Glu Ile Asp Leu Asp
130 135 140
Glu Asp Glu Ile
145

<210> 791
<211> 106
<212> PRT
<213> Eucalyptus grandis

<400> 791
Met Ala Ser His Pro Ser Asn His Ser Cys Gly Arg Pro His Gln Gly
1 5 10 15
Ala Phe Ala Asp Ala Leu Tyr Lys Glu Leu Trp His Ala Cys Ala Gly
20 25 30
Pro Leu Val Thr Leu Pro Arg Glu Gly Glu Arg Val Tyr Tyr Phe Pro
35 40 45
Gln Gly His Met Glu Gln Leu Glu Ala Ser Thr Asn Arg Gly Leu Glu
50 55 60
Gln Gln Met Pro Ser Phe Asp Leu Pro Ser Lys Ile Leu Cys Arg Val
65 70 75 80
Val Asn Ile Gln Leu Arg Ala Glu Pro Glu Thr Asp Glu Val Tyr Ser
85 90 95
Gln Ile Thr Leu Leu Pro Glu Pro Glu Gln
100 105

<210> 792
<211> 82
<212> PRT
<213> Eucalyptus grandis

<400> 792
Glu Gln Tyr Leu Asn Leu Ala Tyr Val Gln Gln Leu Glu Asn Ser Arg
1 5 10 15
Phe Arg Leu Met Gln Leu Glu Gln Glu Leu Gln Arg Ala Arg Gln Gln
20 25 30
Gly Ile Phe Val Ser Ser Gly Asn Pro Gly Asp Leu Ser His Asn Met
35 40 45
Ala Ala Ile Gly Asn Gly Ala Met Ala Phe Asp Thr Asp Tyr Ala Arg
50 55 60
Trp Leu Asp Glu His Gln Arg Leu Ile Asn Asp Leu Arg Ser Gly Val
65 70 75 80
Asn Phe

<210> 793
 <211> 247
 <212> PRT
 <213> Eucalyptus grandis

<400> 793

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Phe | Leu | Tyr | Ile | Ile | Ser | Leu | Phe | Leu | Val | Arg | Glu | Asn | Ser | Glu |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Arg | Ser | Arg | Glu | Gly | Thr | Ser | Ser | Asn | Gly | Asp | Gly | Lys | Ser | Glu | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Gly | Lys | Val | Ala | Gly | Glu | Val | Asp | Ala | Ala | Ser | Glu | Asn | Val | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Gly | Ala | Ile | Glu | Arg | Pro | Arg | Ala | Thr | Gly | Lys | Leu | Ala | Ala | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Asn | Ser | Pro | Ser | Met | Ser | Ser | Ser | Leu | Asp | Leu | Lys | Asn | Ser | Cys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Met | Asp | Ala | Asn | Ala | Asn | Pro | Val | Ser | Ile | Leu | Gln | Pro | Gly | Val | Val |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Pro | Glu | Ala | Trp | Leu | Gln | Asn | Glu | Arg | Glu | Leu | Lys | Arg | Glu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Lys | Gln | Ser | Asn | Arg | Glu | Ser | Ala | Arg | Arg | Ser | Arg | Leu | Arg | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gln | Ala | Glu | Thr | Glu | Glu | Leu | Ala | Lys | Lys | Val | Asp | Ser | Leu | Ser | Ala |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Glu | Asn | Arg | Ala | Leu | Lys | Ser | Glu | Ile | Ser | Gln | Leu | Thr | Glu | Asn | Ser |
| 145 | | | | | 150 | | | | 155 | | | | | | 160 |
| Asp | Lys | Leu | Arg | Leu | Glu | Asn | Ala | Thr | Leu | Met | Glu | Arg | Leu | Glu | Asn |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Gln | Gly | Val | Glu | Lys | Ala | Val | Glu | Ser | Leu | Gly | Lys | Phe | Asn | Asp |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Asn | Gly | Leu | Leu | Ser | Asp | Lys | Thr | Glu | Asn | Leu | Leu | Ser | Arg | Val | Asn |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Asn | Ser | Gly | Ala | Val | Asp | Arg | Arg | Ser | Glu | Asp | Glu | Gly | Glu | Ile | Tyr |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Glu | Arg | Lys | Ser | Asn | Ser | Gly | Ala | Lys | Leu | His | Gln | Leu | Leu | Asp | Ser |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Lys | Pro | Arg | Thr | Asp | Ala | Val | | | | | | | | | |
| | | | | 245 | | | | | | | | | | | |

<210> 794
 <211> 145
 <212> PRT
 <213> Eucalyptus grandis

<400> 794

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ser | Leu | Ser | Pro | His | His | Leu | Lys | Met | Glu | Val | Ala | Pro | Gln | Ala |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Glu | His | His | Gln | Asn | His | His | His | His | His | His | Gln | Tyr | His | His | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gln | Gln | Gly | Glu | Pro | Gly | Ser | Tyr | Phe | Leu | Ser | Ala | Pro | Pro | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Pro | His | Tyr | Ser | Ser | Ser | Gly | Leu | Cys | Tyr | Gly | Gly | Gly | Val | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asp | Asn | Asn | Asn | Gly | Gly | Tyr | Leu | His | Ser | Pro | Leu | Ser | Val | Met | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |

Leu Lys Ser Asp Gly Ser Leu Cys Ile Met Glu Ala Leu Thr Arg Ser
 85 90 95
 Arg Pro Gln Gly Leu Gly Gln Gly Ser Thr Pro Lys Leu Glu Asp Phe
 100 105 110
 Leu Gly Gly Ala Ser Ala Thr Val Thr Ala Thr Thr Met Pro Leu Ser
 115 120 125
 Leu Asp Ser Leu Tyr Ser Tyr Gln Gln Ser Ala Asp Pro Glu Lys Gln
 130 135 140
 Ser
 145

<210> 795
 <211> 220
 <212> PRT
 <213> Eucalyptus grandis

<400> 795
 Glu Thr Gln Arg Glu Lys Val Glu Arg Glu Arg Glu Thr Ser Ile Pro
 1 5 10 15
 Ser Gln Ser Pro Gln Pro Thr Ile Leu Pro Pro Thr Ala Ser Ser Pro
 20 25 30
 Gly Arg Ser Asp Pro Pro Gly Asp Ala Thr Thr Met Val Lys Pro Ser
 35 40 45
 Gly Gly Gly Gly Asp Arg Ala Pro Pro Leu Ala Pro Phe Leu Ser Lys
 50 55 60
 Cys Tyr Glu Met Val Glu Asp Glu Ala Thr Asp Pro Ile Ile Ala Trp
 65 70 75 80
 Gly Ser Ala Gly Asp Thr Phe Val Ile Trp Asp Ile Thr Gln Phe Thr
 85 90 95
 Leu Gln Leu Leu Pro His Tyr Phe Lys His Ser Asn Phe Ser Ser Phe
 100 105 110
 Met Arg Gln Leu Asn Ile Tyr Gly Phe Arg Lys Val Asp Ser Asp Arg
 115 120 125
 Trp Glu Phe Ala Asn Asp Gly Phe Ile Arg Gly Gln Lys His Met Leu
 130 135 140
 Lys Asn Ile Arg Arg Arg Lys Asn Val Gln Val Val Asp Gln Lys Lys
 145 150 155 160
 Ser Leu Gln Lys Gln Asp Asn Ser Val Glu Glu Val Asp Lys Ile Lys
 165 170 175
 Ile Asp Gly Leu Trp Lys Glu Val Glu Asn Leu Lys Ile Asp Lys Thr
 180 185 190
 Val Leu Ser Leu Glu Leu Gly Lys Val Arg Gln Leu Gln Glu Thr Ser
 195 200 205
 Asp Asn Lys Leu Val Leu Leu Arg Asp Arg Val Gln
 210 215 220

<210> 796
 <211> 212
 <212> PRT
 <213> Eucalyptus grandis

<400> 796
 Met Ile Gly Ala Ala Thr Asn Gln Ile Pro Pro Pro Pro Pro Pro Pro
 1 5 10 15
 Gln Pro Gln Gln Ala Ala Pro Ala Ala Ala Ala Ile Arg Phe Pro Asp
 20 25 30
 Ser Val Tyr Asn Ala Leu Arg Val Gly Ala Val Phe Gln Arg Leu Ser

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| | | 35 | | | | | 40 | | | | 45 | | | | | | | | |
| Lys | His | Leu | Ala | Thr | Ile | Gly | Lys | Gly | Ser | Gly | Leu | Ser | Ala | Ser | Cys | | | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | | | |
| Gly | Thr | Ser | Met | Glu | Phe | Leu | Asn | Ser | Cys | Leu | Cys | Leu | Ala | Arg | Gly | | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | | | |
| Ile | Asp | Tyr | Ala | Val | Ala | Asn | Asn | Glu | Val | Leu | Pro | Lys | Ala | His | Glu | | | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | | | |
| Leu | Pro | Val | Leu | Leu | Lys | Arg | Leu | Cys | Leu | Leu | Lys | Asp | Asp | Ser | Phe | | | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | | | |
| Tyr | Leu | Ser | Val | Ile | Met | Val | Leu | Met | Ile | Ser | Val | Lys | Asn | Ala | Cys | | | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | | | |
| Lys | Tyr | Lys | Trp | Phe | Ser | Glu | Lys | Asp | Cys | Gln | Glu | Leu | Leu | Ala | Leu | | | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | | | |
| Val | Asp | Glu | Ile | Gly | Lys | Asn | Phe | Gln | Ser | Pro | Arg | Asp | Ala | Ala | Val | | | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | | | |
| Gly | Ser | Thr | Ala | Ser | Phe | Ser | Arg | Val | Ser | Ser | Ile | Phe | Ala | Arg | Phe | | | | |
| | | | | 165 | | | | 170 | | | | | | 175 | | | | | |
| Tyr | Pro | Gln | Leu | Lys | Met | Gly | Tyr | Asp | Leu | Ile | Ser | Leu | Glu | Val | Glu | | | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | | | |
| Pro | Gly | Tyr | Ala | Ala | Leu | Val | Asn | Asp | Phe | His | Ile | Ser | Lys | Ser | Met | | | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | | | |
| Val | His | Ser | Pro | | | | | | | | | | | | | | | | |
| | | 210 | | | | | | | | | | | | | | | | | |

<210> 797

<211> 269

<212> PRT

<213> Eucalyptus grandis

<400> 797

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Met | Asn | Ser | Thr | Thr | Gln | Phe | Val | Ser | Ser | Arg | Arg | Met | Gly | Met | | | | | |
| 1 | | | | 5 | | | | 10 | | | | 15 | | | | | | | |
| Tyr | Asp | Pro | Ile | His | Gln | Ile | Gly | Met | Trp | Asp | Glu | Asn | Phe | Lys | Gln | | | | |
| | | | 20 | | | | | 25 | | | | 30 | | | | | | | |
| Asn | Gly | Asn | Pro | Asn | Ala | Pro | Pro | Ala | Leu | Ile | Ile | Pro | Met | His | Ala | | | | |
| | | 35 | | | | 40 | | | | | 45 | | | | | | | | |
| Asn | Leu | Asp | Asn | Gln | Ser | Glu | Asp | Thr | Ser | His | Gly | Ser | Gln | Asp | Thr | | | | |
| | 50 | | | | | 55 | | | | 60 | | | | | | | | | |
| Ala | Gly | Lys | Tyr | Glu | Gln | Glu | Thr | Ser | Lys | Pro | Tyr | Asp | Lys | Val | Gln | | | | |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 | | | | |
| Arg | Arg | Leu | Ala | Gln | Asn | Arg | Glu | Ala | Ala | Arg | Lys | Ser | Arg | Leu | Arg | | | | |
| | | | | 85 | | | | 90 | | | | | | 95 | | | | | |
| Lys | Lys | Ala | Tyr | Val | Gln | Gln | Leu | Glu | Ala | Ser | Arg | Leu | Lys | Leu | Met | | | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | | | |
| Gln | Leu | Glu | Gln | Glu | Val | Asp | Arg | Ala | Arg | Gln | Gln | Gly | Val | Tyr | Met | | | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | | | |
| Ala | Ser | Gly | Val | Asp | Ser | Ala | Tyr | Pro | Gly | Tyr | Gly | Gly | Cys | Leu | Asn | | | | |
| | | 130 | | | | 135 | | | | 140 | | | | | | | | | |
| Ser | Gly | Ile | Val | Ala | Phe | Glu | Met | Glu | Tyr | Gly | His | Trp | Ile | Asp | Glu | | | | |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 | | | | |
| Gln | Asn | Arg | Gln | Ile | Cys | Glu | Leu | Arg | Ala | Ala | Leu | Asn | Asp | His | Arg | | | | |
| | | | | 165 | | | | 170 | | | | | | 175 | | | | | |
| Thr | Asp | Val | Glu | Leu | Arg | Ile | Leu | Val | Glu | Ser | Gly | Met | Asn | His | Tyr | | | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | | | |
| Leu | Glu | Leu | Phe | Arg | Met | Lys | Ala | Val | Ala | Ser | Lys | Ala | Asp | Val | Phe | | | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | | | |
| Tyr | Val | Met | Ser | Gly | Met | Trp | Arg | Thr | Ser | Ser | Glu | Arg | Phe | Phe | Leu | | | | |

| | | |
|---|-----|-----|
| 210 | 215 | 220 |
| Trp Ile Gly Gly Phe Arg Pro Ser Glu Leu Leu Lys Val Leu Met Pro | | |
| 225 | 230 | 235 |
| Gln Leu Asp Pro Leu Ser Asp Gln Gln Trp Ala Phe Val Ser Asn Leu | | |
| | 245 | 250 |
| Arg Gln Ala Cys Gln Gln Ala Glu Asp Ala Leu Lys Gln | | 255 |
| | 260 | 265 |

<210> 798
 <211> 145
 <212> PRT
 <213> Eucalyptus grandis

<400> 798

| | |
|---|--|
| Ile Asn Thr Thr Pro Gln Phe Leu Ser Leu Arg Ser His Pro Asn Arg | |
| 1 5 10 15 | |
| His Pro Gln Ser Leu Ser Phe Ser Leu Phe Phe Ser Val Cys Pro Val | |
| 20 25 30 | |
| Cys Asp Lys Gly Phe Pro Ser Tyr Gln Ala Leu Gly Gly His Lys Ala | |
| 35 40 45 | |
| Ser His Arg Lys His Ala Ser Ser Ala Ala Ala Ala Gly Gly Asp | |
| 50 55 60 | |
| Asp Gln Pro Thr Thr Ser Ser Thr Ser Ala Ala Thr Thr Ser Ser Gly | |
| 65 70 75 80 | |
| Val Ser Gly Lys Val His Glu Cys Ser Ile Cys His Lys Ser Phe Pro | |
| 85 90 95 | |
| Thr Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu Ala Pro | |
| 100 105 110 | |
| Ala Pro Ile Pro Ala Ser Phe Ser Ala Pro Ser Ala Ala Ala Pro | |
| 115 120 125 | |
| Ala Ala Ser Gly Val Ser Val Ser Glu Gly Val Gly Ser Thr His Thr | |
| 130 135 140 | |
| Gln | |
| 145 | |

<210> 799
 <211> 121
 <212> PRT
 <213> Eucalyptus grandis

<400> 799

| | |
|---|--|
| Arg His His Lys Ile Gln Gln Leu Gln Arg Ala Arg Ser Glu Leu Ala | |
| 1 5 10 15 | |
| Arg Met Phe Ser Leu Glu Gly Gln Leu Glu Asp Pro Val Arg Ser Gly | |
| 20 25 30 | |
| Trp Gln Leu Val Phe Val Asp Arg Glu Asn Asp Ser Leu Leu Gly | |
| 35 40 45 | |
| Asp Gly Pro Trp Pro Glu Phe Val Asn Ser Val Trp Cys Ile Lys Ile | |
| 50 55 60 | |
| Leu Ser Pro Gln Glu Val Gln Gln Met Gly Lys Gln Asp Leu Glu Leu | |
| 65 70 75 80 | |
| Leu Asn Ser Ile Pro Val Gln Arg His Ser Asn Gly Gly Cys Asp Glu | |
| 85 90 95 | |
| Phe Thr Asn Arg Gln Asp Ser Arg Thr Ile Asn Ser Gly Ile Pro Ser | |
| 100 105 110 | |
| Val Gly Ser Leu Asp Tyr Gly Thr Leu | |
| 115 120 | |

<210> 800
 <211> 182
 <212> PRT
 <213> Eucalyptus grandis

<400> 800

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Asp | Asp | Thr | Gly | Asp | Lys | Asn | His | Arg | Phe | Glu | Gly | Gly | Gln | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Val | Ala | Ala | Ala | Ser | Asp | Ser | Ser | Asp | Arg | Ser | Lys | Glu | Lys | Ala |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Thr | Asp | Gln | Lys | Thr | Leu | Arg | Arg | Leu | Ala | Gln | Asn | Arg | Glu | Ala | Ala |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Arg | Lys | Ser | Arg | Leu | Arg | Lys | Lys | Ala | Tyr | Val | Gln | Gln | Leu | Glu | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Arg | Leu | Lys | Leu | Thr | Gln | Leu | Glu | Gln | Glu | Leu | Gln | Arg | Ala | Arg |
| 65 | | | | 70 | | | | 75 | | | | | | | 80 |
| Gln | Gln | Gly | Ile | Phe | Ile | Ser | Gly | Ser | Gly | Glu | Gln | Ser | His | Ser | Met |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Ser | Gly | Asn | Gly | Ala | Leu | Ala | Phe | Asp | Val | Glu | Tyr | Ala | Arg | Trp | Leu |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Glu | Glu | His | Asn | Lys | Val | Val | Asn | Glu | Leu | Arg | Asn | Ala | Val | Asn | Ala |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Ala | Gly | Asp | Thr | Glu | Leu | Arg | Thr | Ile | Val | Asp | Asn | Val | Ala | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| His | Phe | Asp | Glu | Ile | Phe | Lys | Leu | Lys | Gly | Thr | Ala | Ala | Lys | Ala | Asp |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 |
| Val | Phe | His | Ile | Leu | Ser | Gly | Met | Trp | Lys | Thr | Pro | Ala | Glu | Arg | Cys |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Phe | Met | Trp | Ile | Gly | Gly | | | | | | | | | | |
| | | | 180 | | | | | | | | | | | | |

<210> 801
 <211> 74
 <212> PRT
 <213> Eucalyptus grandis

<400> 801

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Phe | Thr | Gly | Thr | Gln | Val | Lys | Cys | Lys | Ala | Cys | Glu | Lys | Thr |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Val | Tyr | Pro | Val | Glu | Gln | Leu | Ser | Ala | Asp | Gly | Val | Ala | Tyr | His | Lys |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Ser | Cys | Phe | Lys | Cys | Ser | His | Cys | Lys | Gly | Thr | Leu | Lys | Leu | Ser | Ser |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Tyr | Ser | Ser | Met | Glu | Gly | Val | Leu | Tyr | Cys | Lys | Pro | His | Phe | Glu | Gln |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Phe | Lys | Glu | Thr | Gly | Asn | Phe | Asn | Lys | | | | | | |
| 65 | | | | | 70 | | | | | | | | | | |

<210> 802
 <211> 194
 <212> PRT
 <213> Eucalyptus grandis

<400> 802

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ser | Val | Phe | His | Val | Phe | Tyr | Ser | Pro | Arg | Ala | Ser | His | Ala | Glu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

Phe Val Val Pro Tyr Gln Lys Tyr Leu Lys Ser Ile Asn Asn Val Ile
20 25 30
Cys Ile Gly Thr Arg Phe Lys Met Arg Val Asp Val Asp Asp Ala Pro
35 40 45
Glu Lys Arg Cys Thr Gly Val Val Thr Arg Ile Gly Asp Leu Asp Pro
50 55 60
Tyr Arg Trp Pro Asn Ser Lys Trp Arg Cys Leu Met Val Gln Trp Asp
65 70 75 80
Asp Asp Ile Thr Asn Gly His Gln Asp Arg Val Ser Pro Trp Glu Ile
85 90 95
Asp Pro Ser Val Ser His Ser Pro Leu Ser Ile Gln Ser Ser Pro Arg
100 105 110
Leu Lys Arg Pro Arg Thr Ser Leu Pro Thr Met Pro Pro Val Pro Gly
115 120 125
Gly Gly Val Arg Leu Leu Asp Phe Glu Glu Ser Leu Arg Ser Ser Lys
130 135 140
Val Leu Gln Gly Gln Glu Lys Leu His Leu Val Ser Pro Val Tyr Gly
145 150 155 160
Arg Asp Thr Leu Asn Cys Gln Val Asp Phe Glu Gln Ser Pro Ala His
165 170 175
Gln Gly Leu Ala Ser Val Val Ser Lys Lys Arg Pro Thr Ile Ser Met
180 185 190
Ser Thr

<210> 803

<211> 282

<212> PRT

<213> Eucalyptus grandis

<400> 803

Arg Arg Ala Asn Arg Pro Gln Thr Val Met Pro Ser Ser Val Leu Ser
1 5 10 15
Ser Asp Ser Met His Ile Gly Leu Leu Ala Ala Ala His Ala Ala
20 25 30
Ala Thr Asn Ser Arg Phe Thr Ile Phe Tyr Asn Pro Arg Ala Ser Pro
35 40 45
Ser Glu Phe Val Ile Pro Leu Ala Lys Tyr Val Lys Ala Val Tyr His
50 55 60
Thr Arg Val Ser Val Gly Met Arg Phe Arg Met Leu Phe Glu Thr Glu
65 70 75 80
Glu Ser Ser Val Arg Arg Tyr Met Gly Thr Ile Thr Gly Ile Ser Asp
85 90 95
Leu Asp Pro Val Arg Trp Gln Asn Ser His Trp Arg Ser Val Lys Val
100 105 110
Gly Trp Asp Glu Ser Thr Ala Gly Glu Arg Gln Pro Arg Val Ser Leu
115 120 125
Trp Glu Ile Glu Pro Leu Thr Thr Phe Pro Met Tyr Pro Ser Pro Phe
130 135 140
Pro Leu Arg Leu Lys Arg Pro Trp Pro Ser Gly Leu Pro Ser Phe His
145 150 155 160
Ala Leu Arg Asp Gly Asp Met Ser Ile Ser Ser Ser Leu Met Trp Leu
165 170 175
Gln Gly Val Gly Asp Gln Gly Val Gln Ser Leu Asn Phe Gln Gly Phe
180 185 190
Gly Met Thr Pro Trp Leu Gln Pro Arg Tyr Asp Thr Ser Met Ala Ala
195 200 205

Leu Gln Thr Asp Val Tyr Gln Ala Met Ala Ser Ala Ala Leu Gln Asp
 210 215 220
 Met Arg Ala Val Asp Pro Ser Lys Cys Ala Ser Gln Ser Leu Leu Pro
 225 230 235 240
 Leu Gln Gln Ser Gln Asn Val Pro Met Gly Gln Ala Ser Ile Ile Gln
 245 250 255
 Arg Gln Met Leu Gln Gln Ser Gln Ser Gln Asn Ser Leu Leu Gln Gly
 260 265 270
 Phe Gln Glu Asn Gln Ala Lys Pro Lys Gly
 275 280

<210> 804
 <211> 177
 <212> PRT
 <213> Eucalyptus grandis

<400> 804
 Asp Lys Leu Arg Glu Ile Glu Asn Ser Leu Phe Gly Pro Glu Ser Asp
 1 5 10 15
 Ile Ser Asp Ser Cys Asn Cys Cys Leu Asn Ser Gly Ser His Gln Phe
 20 25 30
 Pro Ser Thr Gly Gln Trp Asn Val Asn Gln Met Ile Glu Met Ile Pro
 35 40 45
 Lys Leu Asp Leu Lys Asp Met Leu Ile Val Cys Ala Gln Ala Val Ala
 50 55 60
 Glu Ala Asp Met Pro Arg Thr Ala Ala Leu Met Glu Val Leu Glu Arg
 65 70 75 80
 Met Val Ser Val Ser Gly Asp Pro Ile Gln Arg Leu Gly Ala Tyr Leu
 85 90 95
 Leu Glu Gly Leu Arg Ala Arg Leu Glu Ser Ser Gly Ser Ile Ile Tyr
 100 105 110
 Arg Lys Leu Lys Cys Lys Glu Pro Thr Gly Ser Glu Leu Met Ser Tyr
 115 120 125
 Met Ser Ile Leu Tyr Gln Ile Cys Pro Tyr Trp Lys Phe Ala Tyr Glu
 130 135 140
 Ser Ala Asn Val Val Ile Gly Glu Ala Ile Lys Tyr Glu Ser Arg Ile
 145 150 155 160
 His Ile Ile Asp Phe Gln Ile Ala Gln Gly Ser Gln Trp Ile Pro Ile
 165 170 175
 Ile

<210> 805
 <211> 86
 <212> PRT
 <213> Eucalyptus grandis

<400> 805
 Met Gly Arg Ser Pro Arg Cys Asp Lys Asp Gly Leu Asn Lys Gly Ala
 1 5 10 15
 Trp Thr Ala Ala Glu Asp Gln Ile Leu Met Asp Tyr Val Lys Leu His
 20 25 30
 Gly Glu Gly Lys Trp Ser Arg Leu Ser Arg Glu Thr Gly Leu Arg Arg
 35 40 45
 Cys Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu Arg Pro Asp
 50 55 60
 Ile Lys Arg Gly Asn Ile Ser Pro Asp Glu Glu Glu Leu Ile Ile Arg

65 70 75 80
 Leu His Lys Leu Leu Gly
 85

<210> 806
 <211> 133
 <212> PRT
 <213> Eucalyptus grandis

<400> 806
 Met Arg Leu Ser Ser Gly Phe Asn His Gln Ser Pro Glu Ala Ser
 1 5 10 15
 Asn Ala Gly Glu Lys Lys Cys Leu Asn Ser Glu Leu Trp His Ala Cys
 20 25 30
 Ala Gly Pro Leu Val Ser Leu Pro Val Gly Ser Arg Val Val Tyr
 35 40 45
 Phe Pro Gln Gly His Ser Glu Gln Val Ala Ala Ser Thr Asn Lys Glu
 50 55 60
 Val Asp Ala His Ile Pro Asn Tyr Pro Asn Leu Ser Pro Gln Leu Ile
 65 70 75 80
 Cys Gln Leu His Asn Val Thr Met His Ala Asp Val Glu Thr Asp Glu
 85 90 95
 Val Tyr Ala Gln Met Thr Leu Gln Pro Leu Ser Pro Gln Glu Gln Lys
 100 105 110
 Asp Leu Tyr Leu Leu Pro Ala Glu Leu Gly Thr Pro Ser Lys Gln Pro
 115 120 125
 Thr Asn Tyr Phe Cys
 130

<210> 807
 <211> 222
 <212> PRT
 <213> Eucalyptus grandis

<400> 807
 Ser Pro Phe Leu Ser Leu Thr Thr Ser Ser Ser Ser Ser Pro Pro Arg
 1 5 10 15
 Arg Lys Ile Arg Thr Leu Gly Arg Ala Ala Asn Arg Arg Asn Pro Ser
 20 25 30
 Pro Ala Glu Val Ala Ala Ala Ala Val His Ala Tyr Leu Ser Arg Arg
 35 40 45
 Arg Pro Ala Glu Arg Ile Leu Leu Arg Ser Gly Pro Met Ser Pro Ala
 50 55 60
 Arg Ser Lys Pro Ile Ala Ile Arg Ala Val Phe Tyr Ala Asn Leu Glu
 65 70 75 80
 Ser Glu Phe Ala Leu Ile Arg Ser Val Val Asp Arg Phe Pro Ile Ile
 85 90 95
 Ser Met Asp Thr Glu Phe Pro Gly Thr Val Ile Arg Pro Gly Pro Ala
 100 105 110
 Gly Gly Gly Gly Gly Arg Ala Leu Pro Pro Pro Glu Ser Asn Tyr Gly
 115 120 125
 Leu Leu Lys Ala Asn Val Asp Arg Met His Met Ile Gln Ile Gly Leu
 130 135 140
 Thr Leu Ser Asp Gly Glu Gly Asn Leu Pro Asp Phe Gly Thr Lys Cys
 145 150 155 160
 Ala Tyr Ile Trp Glu Phe Asn Phe Arg Asp Phe Asp Ala Ala Arg Asp
 165 170 175

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Gln | Asn | Pro | Asp | Ser | Val | Ala | Leu | Leu | Arg | Lys | Gln | Gly | Ile | Asp |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Phe | Glu | Met | Asn | Arg | Gln | Lys | Gly | Ala | Asp | Ser | Ala | Arg | Phe | Gly | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Leu | Met | Ser | Ser | Gly | Leu | Val | Cys | Asn | Asp | Glu | Val | Ser | | |
| | 210 | | | | | 215 | | | | | 220 | | | | |

<210> 808
 <211> 111
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 808 | | | | | | | | | | | | | | | |
| Arg | Gly | Gly | Phe | Asn | Met | Glu | Lys | Leu | Ala | Arg | Gly | Ser | Val | Gln | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | His | Leu | Asn | Ala | Ala | Val | Ala | Leu | Asp | Glu | Gly | Trp | Tyr | Cys | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Arg | Met | Leu | His | Phe | Ser | Phe | Glu | Asn | Glu | Phe | Lys | Arg | Asp | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Gly | Arg | Gly | Asn | Trp | Gly | Thr | Pro | Thr | Asp | Glu | Ile | Ala | Pro | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Glu | Glu | Pro | Val | Val | Glu | Val | Glu | Lys | Asn | Val | Gly | Ser | Glu | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gln | Leu | Val | Asp | Glu | Glu | Ala | Ala | Asp | Ala | Ser | Lys | Glu | Asn | Pro | Leu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Asn | Glu | Pro | Glu | Glu | Lys | Glu | Pro | Glu | Asp | Lys | Glu | Met | Thr | Leu | |
| | | | 100 | | | | | 105 | | | | | 110 | | |

<210> 809
 <211> 159
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 809 | | | | | | | | | | | | | | | |
| Gln | Ser | Gly | Leu | Pro | Leu | Asp | Asp | Arg | Pro | Glu | Gly | Ala | Arg | Ser | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Pro | Glu | Pro | Ile | Tyr | Asp | Asn | Met | Gly | Ile | Arg | Ile | Asn | Thr | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Tyr | Arg | Ala | Arg | Glu | Arg | Leu | Asn | Lys | Glu | Arg | Gln | Asp | Ile | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Gln | Ile | Ile | Lys | Arg | Asn | Pro | Ala | Phe | Lys | Pro | Pro | Ala | Asp | Tyr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Pro | Pro | Lys | Leu | Gln | Lys | Lys | Leu | Tyr | Ile | Pro | Met | Lys | Glu | Tyr |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Pro | Gly | Tyr | Asn | Phe | Ile | Gly | Leu | Ile | Ile | Gly | Pro | Arg | Gly | Asn | Thr |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gln | Lys | Arg | Met | Glu | Arg | Glu | Thr | Gly | Ala | Lys | Ile | Val | Ile | Arg | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Gly | Ser | Val | Lys | Glu | Gly | Arg | Leu | Gln | Gln | Lys | Arg | Asp | Leu | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Asp | Pro | Ala | Glu | Asn | Glu | Asp | Leu | His | Val | Leu | Val | Glu | Ala | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Thr | Gln | Glu | Ala | Leu | Asp | Ala | Ala | Ala | Gly | Met | Val | Glu | Lys | Leu | |
| 145 | | | | | | 150 | | | | 155 | | | | | |

<210> 810
 <211> 387

<212> PRT
 <213> Eucalyptus grandis

<400> 810

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Cys | Gly | Gly | Ala | Ile | Ile | Ser | Asp | Phe | Ile | Pro | Asn | Gln | Arg | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Arg | Leu | Thr | Ser | Asp | Phe | Leu | Trp | Pro | Asp | Leu | Lys | Arg | Ser | Ala |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Gly | Lys | Gln | Ser | Arg | Arg | Pro | Ala | Arg | Ser | Glu | Val | Val | Asp | Val | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Asp | Asp | Phe | Glu | Ala | Asp | Phe | Gln | Gly | Phe | Lys | Asp | Glu | Ser | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Glu | Asp | Asp | Phe | Asp | Asp | Glu | Val | Glu | Val | Asp | Val | Lys | Pro | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | Phe | Ser | Ala | Ala | Glu | Pro | Arg | Tyr | Ser | Lys | Gly | Ser | Ser | Thr | Thr |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Lys | Ser | Val | Glu | Tyr | Asn | Gly | Gln | Ala | Glu | Lys | Ser | Ala | Lys | Arg | Lys |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Arg | Lys | Asn | Gln | Tyr | Arg | Gly | Ile | Arg | Gln | Arg | Pro | Trp | Gly | Lys | Trp |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ala | Glu | Ile | Arg | Asp | Pro | Arg | Lys | Gly | Val | Arg | Val | Trp | Leu | Gly |
| | | 130 | | | | | 135 | | | | 140 | | | | |
| Thr | Phe | Asn | Thr | Ala | Glu | Glu | Ala | Ala | Arg | Ala | Tyr | Asp | Ala | Glu | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Arg | Arg | Ile | Arg | Gly | Lys | Lys | Ala | Lys | Val | Asn | Phe | Pro | Asp | Asp | Ser |
| | | | | 165 | | | | 170 | | | | | | 175 | |
| Ser | Ser | Ala | Ser | Ser | Lys | Arg | Ser | Val | Lys | Ser | Asn | Val | Gln | Lys | Leu |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Pro | Lys | Thr | Thr | Asn | Asn | Val | Gln | Pro | Asn | Leu | Asn | Gln | Asn | Phe | |
| | | 195 | | | | 200 | | | | | 205 | | | | |
| Asn | Tyr | Ala | Asn | Ser | Ser | Asp | Asp | Ile | Tyr | Ser | Ser | Met | Gly | Phe | |
| | 210 | | | | | 215 | | | | 220 | | | | | |
| Val | Glu | Glu | Lys | Pro | Pro | Thr | Asn | Gln | Phe | Tyr | Met | Asp | Ala | Leu | Asn |
| | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Gln | Gly | Val | Ser | Gly | Met | Asn | Ser | Leu | Ser | Pro | Ala | Asp | Asn | Ala |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Pro | Leu | Tyr | Phe | Asn | Ser | Asp | Gln | Gly | Ser | Asn | Ser | Phe | Glu | Cys | Ser |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Phe | Gly | Trp | Gly | Glu | Asn | Ala | Pro | Arg | Thr | Pro | Asp | Val | Ser | Ser |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Val | Leu | Ser | Ala | Thr | Leu | Glu | Val | Asp | Glu | Ser | Gln | Phe | Glu | Asp | Ala |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Asn | Pro | Arg | Lys | Lys | Ile | Arg | Ser | Ala | Ser | Asp | Asp | Val | Ser | Glu | Glu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Asn | Thr | Ala | Ala | Lys | Thr | Phe | Ser | Glu | Glu | Leu | Ser | Ala | Phe | Glu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ser | Asp | Met | Lys | Phe | Phe | Gln | Met | Pro | Phe | Val | Asp | Gly | Gly | Trp | Asp |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Pro | Ser | Val | Glu | Ala | Leu | Leu | Gly | Gly | Glu | Ala | Thr | Gln | Asp | Gly | Gly |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asn | Ala | Val | Asp | Leu | Trp | Ser | Phe | Asp | Asp | Leu | Ala | Pro | Met | Met | Gly |
| | | 370 | | | | 375 | | | | | 380 | | | | |
| Gly | Val | Phe | | | | | | | | | | | | | |
| 385 | | | | | | | | | | | | | | | |

<210> 811
 <211> 219

<212> PRT
<213> Eucalyptus grandis

<400> 811

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Gly | Gly | Ala | Ala | Gly | Phe | Leu | Gly | Pro | Arg | Ala | Val | Pro | Met | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Ala | Gly | Leu | Ala | Gln | Lys | Pro | Thr | Lys | Leu | Tyr | Arg | Gly | Val | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Arg | His | Trp | Gly | Lys | Trp | Val | Ala | Glu | Ile | Arg | Leu | Pro | Lys | Asn |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Arg | Thr | Arg | Leu | Trp | Leu | Gly | Thr | Phe | Asp | Thr | Ala | Glu | Glu | Ala | Ala |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Leu | Ala | Tyr | Asp | Lys | Ala | Ala | Tyr | Arg | Leu | Arg | Gly | Asp | Phe | Ala | Arg |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Asn | Phe | Pro | His | Leu | Lys | His | Lys | Gly | Ser | His | Ile | Gln | Gly | Asp |
| | | | | 85 | | | | | 90 | | | | 95 | | |
| Phe | Gly | Asp | Tyr | Lys | Pro | Leu | His | Ser | Ser | Val | Asp | Ala | Lys | Leu | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ile | Cys | Gln | Asp | Met | Ala | Glu | Lys | Pro | Ala | Asp | Gly | Lys | Lys | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Arg | Ser | Ala | Pro | Ala | Gly | Gly | Gly | Ser | Ser | Ala | Ala | Ala | Ala | Ser | Pro |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Arg | Arg | Pro | Glu | Pro | Glu | Pro | Glu | Pro | Val | Lys | Thr | Glu | Val | Gly | Val |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ser | Ala | Ala | Thr | Ser | Ser | Ser | Pro | Glu | Ser | Asp | Asp | Ala | Ser | Val | Glu |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Glu | Ser | Ser | Pro | Leu | Ser | Glu | Leu | Thr | Phe | Asn | Asp | Phe | Val | Glu | Pro |
| | | 180 | | | | | 185 | | | | | 190 | | | |
| Gln | Trp | Glu | Ser | Val | Gly | Val | Pro | Glu | Asn | Phe | Ser | Leu | Gln | Lys | Tyr |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Pro | Ser | Glu | Ile | Asp | Trp | Ala | Ala | Ile | Tyr | Ser | | | | | |
| 210 | | | | | 215 | | | | | | | | | | |

<210> 812
<211> 75
<212> PRT
<213> Eucalyptus grandis

<400> 812

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Glu | Arg | Gln | Arg | Trp | Arg | Ala | Glu | Glu | Asp | Ala | Leu | Leu | Arg |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ala | Tyr | Val | Lys | Gln | Tyr | Gly | Pro | Arg | Glu | Trp | His | Leu | Val | Ser | Gln |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Arg | Met | Asn | Thr | Pro | Leu | Asn | Arg | Asp | Ala | Lys | Ser | Cys | Leu | Glu | Arg |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Trp | Lys | Asn | Tyr | Leu | Lys | Pro | Gly | Ile | Lys | Lys | Gly | Ser | Leu | Ser | Glu |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Glu | Glu | Gln | Arg | Leu | Val | Phe | His | Leu | Leu | Pro | | | | | |
| 65 | | | | 70 | | | | | 75 | | | | | | |

<210> 813
<211> 235
<212> PRT
<213> Eucalyptus grandis

<400> 813

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Val | Leu | Pro | Ser | Ser | Gly | Met | Val | Lys | Ser | Ser | Gly | Gly | Ala | Gly |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Ser | Glu | Arg | Tyr | Asp | Glu | Thr | Thr | Glu | Lys | Gln | Arg | Ile | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Arg | Pro | His | Gln | Lys | Pro | Tyr | Arg | Gly | Ile | Arg | Met | Arg | Lys | Trp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Lys | Trp | Val | Ala | Glu | Ile | Arg | Glu | Pro | Asn | Lys | Arg | Ser | Arg | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Leu | Gly | Ser | Tyr | Ala | Thr | Ala | Val | Ala | Ala | Ala | Arg | Ala | Tyr | Asp |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Thr | Ala | Val | Phe | Tyr | Leu | Arg | Gly | Pro | Ser | Ala | Arg | Leu | Asn | Phe | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asp | Leu | Ile | Leu | His | Glu | Gly | Gln | Asp | Ser | Leu | Gly | Glu | Val | Ser | Ala |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Ala | Ser | Ile | Arg | Arg | Arg | Ala | Ala | Glu | Val | Gly | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 816
 <211> 89
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Phe | Thr | Gly | Thr | Val | Asp | Lys | Cys | Lys | Val | Cys | Asp | Lys | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | His | Val | Val | Asp | Met | Met | Thr | Leu | Glu | Gly | Ile | Pro | Tyr | His | Lys |
| | | | 20 | | | | 25 | | | | | | 30 | | |
| Thr | Cys | Phe | Arg | Cys | Ser | His | Cys | Asn | Gly | Thr | Leu | Val | Met | Ser | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Tyr | Ser | Ser | Met | Asp | Gly | Val | Leu | Tyr | Cys | Lys | Thr | His | Phe | Glu | Gln |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Leu | Phe | Lys | Glu | Ser | Gly | Asp | Phe | Arg | Lys | Asn | Phe | His | Ser | Ala | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Asp | Lys | Pro | Asn | Glu | Met | Thr | Arg | | | | | | | |
| | | | | 85 | | | | | | | | | | | |

<210> 817
 <211> 96
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Ser | Glu | Arg | Tyr | Asp | Glu | Thr | Thr | Glu | Gly | Gln | Arg | Ile | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Arg | Pro | His | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Arg | Arg | Gln | Lys |
| | | | 20 | | | | 25 | | | | | | 30 | | |
| Pro | Tyr | Arg | Gly | Ile | Arg | Met | Arg | Lys | Trp | Gly | Lys | Trp | Val | Ala | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Arg | Glu | Pro | Asn | Lys | Arg | Ser | Arg | Ile | Trp | Leu | Gly | Ser | Tyr | Ala |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Thr | Pro | Val | Ala | Ala | Ala | Arg | Ala | Tyr | Asp | Thr | Ala | Val | Phe | Tyr | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Arg | Gly | Pro | Ser | Ala | Arg | Leu | Asn | Phe | Pro | Asp | Leu | Ile | Trp | Arg | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |

<210> 818
 <211> 159
 <212> PRT
 <213> Eucalyptus grandis

Trp Arg Ser Leu Lys Val Arg Trp Asp Glu Asn Ser Ala Ile Pro Arg
 225 230 235 240
 Pro

<210> 820
 <211> 185
 <212> PRT
 <213> Eucalyptus grandis

<400> 820
 Phe Arg Gly Val Arg Lys Arg Lys Trp Gly Arg Trp Val Ser Glu Ile
 1 5 10 15
 Arg Leu Pro Asn Ser Arg Glu Arg Ile Trp Leu Gly Ser Tyr Asp Thr
 20 25 30
 Pro Glu Lys Ala Ala Arg Ala Phe Asp Ala Ala Ala Phe Cys Leu Gly
 35 40 45
 Arg Pro Ala Ala Lys Leu Asn Phe Pro Gly Ser Pro Pro Glu Ile Ser
 50 55 60
 Gly Ala Ala Ser Leu Ser Pro Asp Glu Ile Gln Ser Ala Ala Ala Ser
 65 70 75 80
 His Ala Asn Phe Gly Ala Val Ala Val Pro Ala Arg Ala Glu Leu Pro
 85 90 95
 Arg Pro Gly Ser Pro Ala Pro Ser Pro Ser Leu Ser Ala Ser Glu Ala
 100 105 110
 Ser Ser Val Leu Thr Thr Glu Ser Asp Leu Thr Leu Asp Leu Ser Phe
 115 120 125
 Leu Asp Phe Leu Asp Asp Ser Gly Pro Val Ser Gly Glu Pro His Ile
 130 135 140
 Gly Lys Phe Pro Gly Val Glu Glu Ala Pro Asp Val Phe Tyr His Met
 145 150 155 160
 Gln Phe Pro Ser Val Glu Ser Ala Gly Leu Asn Leu Asp Thr Leu Leu
 165 170 175
 Ala Ser Asp Ser Phe Pro Trp Arg Ile
 180 185

<210> 821
 <211> 187
 <212> PRT
 <213> Eucalyptus grandis

<400> 821
 Glu Ala Asp Phe Leu Ala Lys His Ser Lys Pro Glu Ile Val Asp Met
 1 5 10 15
 Leu Arg Lys His Thr Tyr Arg Asp Glu Leu Glu Gln Ser Lys Arg Ser
 20 25 30
 Tyr Arg Gly Ser Ala Ala Glu Arg Ala Gly Arg Gly Gly Phe Gly Pro
 35 40 45
 Gly Arg Thr Glu Trp Ser Ala Ala Ala Arg Glu Gln Leu Phe Glu Lys
 50 55 60
 Ala Val Thr Pro Ser Asp Val Gly Lys Leu Asn Arg Leu Val Ile Pro
 65 70 75 80
 Lys Gln His Ala Glu Lys His Phe Pro Leu Pro Gly Gly Pro Ala Ala
 85 90 95
 Thr Met Lys Gly Val Leu Leu Asn Phe Glu Asp Val Gly Gly Lys Val
 100 105 110
 Trp Arg Phe Arg Tyr Ser Tyr Trp Asn Ser Ser Gln Ser Tyr Val Leu

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Thr | Thr | Arg | Thr | Pro | Thr | Gln | Val | Ala | Ser | His | Ala | Gln | Lys | Tyr |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Tyr | Ile | Arg | Gln | Ser | Asn | Ala | Gly | Arg | Arg | Lys | Arg | Arg | Ser | Ser | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Phe | Asp | Met | Ala | Pro | Asp | Met | Ala | Thr | Ala | Asp | Gln | Pro | Ser | His | Pro |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Glu | Glu | Thr | Phe | Leu | Pro | Pro | Leu | Val | Arg | Leu | Asn | Asp | Asp | Thr | Asn |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ser | Thr | Thr | Ser | Thr | Ser | Met | Gly | Leu | Asp | Leu | Glu | Arg | Thr | Pro | Met |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Glu | Thr | Ser | His | Pro | Glu | Thr | Ser | Glu | Gly | Gly | Gly | Asp | Val | Ala | Met |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Glu | Ser | Ile | Asp | Gln | Val | Pro | Leu | Val | Pro | Cys | Tyr | Phe | Pro | Tyr | Tyr |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Pro | Leu | Pro | Phe | Pro | Met | Trp | Pro | Pro | Asn | Met | Ala | Pro | Pro | Glu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Asp | Gly | Arg | Val | Val | Glu | Thr | Ser | His | His | Arg | Val | Leu | Lys | Pro | Ile |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Pro | Val | Ile | Pro | Lys | Glu | Pro | Leu | Asn | Ile | Asp | Gln | Ile | Val | Gly | Met |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ser | Gln | Leu | Ser | Leu | Ala | Glu | Asn | Glu | Pro | Ala | Pro | Leu | Ser | Leu | Lys |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Phe | Leu | Gly | Glu | Thr | Ser | Arg | Gln | Ser | Ala | Phe | Ile | Lys | Ala | Pro | Ser |
| | | | 340 | | | | 345 | | | | | | 350 | | |
| Ser | Val | Asn | Glu | Ser | Asp | Leu | Asp | Asn | Cys | Lys | Asp | Gly | Ala | Thr | Gln |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Ala | Ala | | | | | | | | | | | | | | |
| | 370 | | | | | | | | | | | | | | |

<210> 824

<211> 160

<212> PRT

<213> Eucalyptus grandis

<400> 824

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Leu | Trp | Leu | Ser | Phe | Gly | Thr | Gly | Glu | Lys | Lys | Ser | Ile | Asn | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Leu | Trp | His | Ala | Cys | Ala | Gly | Pro | Leu | Val | Ser | Leu | Pro | Pro | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Ser | Leu | Val | Val | Tyr | Phe | Pro | Gln | Gly | His | Ser | Glu | Gln | Val | Ala |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ala | Ser | Met | Gln | Lys | Glu | Thr | Cys | Val | Pro | Ser | Tyr | Pro | Asn | Leu | |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Pro | Ala | Lys | Leu | Ile | Cys | Met | Leu | His | Asn | Val | Thr | Leu | His | Ala | Asp |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 |
| Leu | Glu | Thr | Asp | Glu | Val | Tyr | Ala | Gln | Met | Thr | Leu | Gln | Pro | Val | Ser |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Lys | Tyr | Asp | Gln | Glu | Ala | Leu | Leu | Ala | Ser | Asp | Met | Gly | Leu | Lys | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Arg | Gln | Pro | Thr | Glu | Phe | Phe | Cys | Lys | Thr | Leu | Thr | Ala | Ser | Asp |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Thr | Ser | Thr | His | Gly | Gly | Phe | Ser | Val | Pro | Arg | Arg | Ala | Ala | Glu | Lys |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Ile | Phe | Pro | Ser | Leu | Asp | Phe | Thr | Met | Gln | Pro | Pro | Cys | Gln | Glu | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |

<210> 825

<211> 129
 <212> PRT
 <213> Eucalyptus grandis

<400> 825

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Glu | Ala | Leu | Asn | Ser | Pro | Thr | Ala | Ala | Ala | Pro | Phe | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| His | Asp | Asp | Ala | Asp | Gly | His | Pro | Trp | Ala | Lys | Arg | Lys | Arg | Ser | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Pro | Arg | Ala | Asp | Pro | Gln | Asp | Gln | Pro | Ser | Glu | Glu | Glu | Tyr | Leu |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ala | Leu | Cys | Leu | Ile | Met | Leu | Ala | Arg | Arg | Arg | Arg | Arg | Pro | Gly | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Gly | Arg | Leu | His | Glu | Cys | Ser | Ile | Cys | His | Lys | Ala | Phe | Pro | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gly | Gln | Ala | Leu | Gly | Gly | His | Lys | Arg | Cys | His | Tyr | Asp | Gly | Gly | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Ser | Ser | Ala | Ala | Arg | Ala | Ala | Ser | Ser | Ser | Glu | Ala | Gly | Gly | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | His | Thr | Thr | Val | Ser | His | Arg | Glu | Pro | Ile | Asp | Leu | Asn | Leu | Pro |
| | | 115 | | | | | 120 | | | | | 125 | | | |

Ala

<210> 826
 <211> 115
 <212> PRT
 <213> Eucalyptus grandis

<400> 826

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | His | Leu | Leu | Gln | Ser | Gly | Trp | Ser | Leu | Phe | Val | Ser | Ser | Lys | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Val | Ala | Gly | Asp | Ala | Phe | Ile | Tyr | Leu | Arg | Gly | Glu | Asn | Gly | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Arg | Val | Gly | Val | Arg | Arg | Ala | Met | Arg | Gln | Leu | Asn | Asn | Val | Pro |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Ser | Ile | Met | Pro | Ser | His | Ser | Met | His | Ile | Gly | Val | Leu | Ala | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Trp | His | Ala | Ile | Ser | Thr | Gly | Thr | Met | Phe | Thr | Val | Tyr | Tyr | Lys |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Pro | Arg | Thr | Ser | Pro | Ala | Glu | Phe | Ile | Ile | Pro | Phe | Asp | Lys | His | Ile |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Glu | Ser | Ala | Lys | Phe | Asp | Tyr | Ser | Ile | Gly | Met | Arg | Phe | Arg | Met | Thr |
| | | 100 | | | | | | 105 | | | | | 110 | | |

Phe Glu Trp
 115

<210> 827
 <211> 199
 <212> PRT
 <213> Eucalyptus grandis

<400> 827

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Ser | Val | His | Asp | Ile | Ser | Glu | Asn | Gly | Glu | Ala | Asp | Glu | Gln | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | His | Ser | Glu | Gln | His | Glu | Ser | Ser | Pro | Ala | Thr | Gly | Val | Pro | His |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 1 | | | | 5 | | | | | | 10 | | | | | 15 | | |
| Gln | Gln | His | Gln | His | Gln | His | Gln | His | His | Pro | Ser | Ser | Arg | Leu | His | | |
| | | | 20 | | | | | | 25 | | | | 30 | | | | |
| Ala | Ser | His | Asp | Glu | Pro | Arg | Gln | Arg | Glu | Glu | Ala | Asp | Val | Arg | Asp | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Pro | Val | Ala | Ala | Arg | Lys | Val | Gln | Lys | Ala | Asp | Arg | Glu | Lys | Leu | Arg | | |
| | 50 | | | | 55 | | | | | 60 | | | | | | | |
| Arg | Asp | Arg | Leu | Asn | Glu | His | Phe | Leu | Glu | Leu | Gly | Ser | Thr | Leu | Asp | | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | | |
| Pro | Asp | Arg | Pro | Lys | Asn | Asp | Lys | Ala | Thr | Ile | Leu | Thr | Asp | | | | |
| | | | 85 | | | | | | 90 | | | | | | | | |

<210> 833

<211> 245

<212> PRT

<213> Eucalyptus grandis

<400> 833

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Lys | Lys | Thr | Ile | Ser | Ser | Glu | His | Lys | Arg | Arg | Arg | Val | Val | Val | Val | | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | | |
| Val | Leu | Leu | Leu | Leu | Val | Pro | Ser | Thr | Ser | Phe | Phe | Pro | Pro | Pro | Ser | | |
| | | | 20 | | | | | 25 | | | | 30 | | | | | |
| Ser | Ser | Leu | Pro | Pro | Ser | Leu | Ser | Leu | Asn | Leu | Pro | Asn | Pro | Ser | Arg | | |
| | | 35 | | | | 40 | | | | 45 | | | | | | | |
| Arg | Arg | Arg | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Arg | Glu | Asp | His | | |
| | 50 | | | | 55 | | | | | 60 | | | | | | | |
| Arg | Phe | Arg | Pro | Ser | Arg | Ala | Arg | Ala | Val | Met | Arg | Arg | Gly | Arg | Cys | | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | | |
| Ala | Ala | Ala | Ala | Ala | Lys | Arg | Glu | Ala | Ala | Glu | Ile | Ala | Pro | Pro | Pro | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Val | Pro | His | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Glu | Pro | Arg | Tyr | Arg | Gly | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Val | Arg | Arg | Lys | Ser | Leu | Gly | Arg | Tyr | Thr | Ala | Glu | Ile | Arg | Asp | Pro | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| Gly | Thr | Lys | Lys | Leu | Val | Arg | Leu | Gly | Thr | Phe | Gly | Ser | Pro | Glu | Glu | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Ala | Ala | Arg | Ala | Phe | Asp | Ala | Lys | Ala | Val | Ala | Phe | Arg | Gly | Val | Lys | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Ala | Arg | Thr | Asn | Phe | Pro | Val | Ala | Pro | Ser | Ser | Phe | Pro | Pro | Ala | Ala | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Ser | Arg | Asp | Leu | Arg | Ala | Pro | Leu | Ile | Glu | Ser | Arg | Lys | Phe | Gly | Arg | | |
| | | 180 | | | | | 185 | | | | | | 190 | | | | |
| Arg | Gly | Ala | Arg | Asp | Leu | Arg | Gly | Asp | His | His | Asp | Val | Ser | Pro | Gln | | |
| | 195 | | | | | 200 | | | | | | 205 | | | | | |
| Arg | Pro | Thr | Ser | Ser | Ser | Leu | Ser | Ser | Thr | Val | Val | Ser | Ser | Ser | Gly | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Pro | Arg | Pro | Ser | Pro | Ser | Pro | Glu | Thr | Ala | Lys | Arg | Arg | Thr | Arg | Thr | | |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 | | |
| Pro | Pro | Arg | His | Arg | | | | | | | | | | | | | |
| | | | 245 | | | | | | | | | | | | | | |

<210> 834

<211> 180

<212> PRT

<213> Eucalyptus grandis

<400> 834

Cys Ser Ala Asp Gln Leu Phe Ala Val Ile Glu Val Glu Asn Glu Val
 210 215 220
 Cys Ala Gln Gln Ser Asp Ala Asn Val His
 225 230

<210> 836
 <211> 59
 <212> PRT
 <213> Eucalyptus grandis

<400> 836
 His Gly Ala Thr Trp Arg Arg Lys Glu Ala Asn Gly Gly Ser Glu Ala
 1 5 10 15
 Ser Asp Ala Val Leu Pro Arg Ala His His Arg His Arg Tyr Lys Gly
 20 25 30
 Val Arg Met Arg Lys Trp Gly Lys Trp Val Ala Glu Ile Arg Gln Pro
 35 40 45
 Asn Ser Arg Asp Arg Ile Trp Leu Gly Ser Tyr
 50 55

<210> 837
 <211> 38
 <212> PRT
 <213> Eucalyptus grandis

<400> 837
 Glu Leu Leu Gln Ile Gln Arg Lys Arg Lys Arg Met Glu Ser Asn Arg
 1 5 10 15
 Glu Ser Ala Lys Arg Ser Arg Leu Arg Lys Gln Gln His Leu Asp Glu
 20 25 30
 Leu Thr Thr Glu Val Gly
 35

<210> 838
 <211> 167
 <212> PRT
 <213> Eucalyptus grandis

<400> 838
 Met Ala Pro Arg Glu Lys Pro Ser Val Ala Ala Ile Pro Asn Pro Asn
 1 5 10 15
 Gly Ala Lys Glu Ile Arg Phe Arg Gly Val Arg Lys Arg Pro Trp Gly
 20 25 30
 Arg Tyr Ala Ala Glu Ile Arg Asp Pro Gly Lys Lys Thr Arg Val Trp
 35 40 45
 Leu Gly Thr Phe Asp Thr Ala Glu Glu Ala Ala Arg Ala Tyr Asp Thr
 50 55 60
 Ala Ala Arg Glu Phe Arg Gly Ala Lys Ala Lys Thr Asn Phe Pro Thr
 65 70 75 80
 Ser Ala Glu Leu Ile Ser Ser Ser Arg Ser Pro Ser Gln Ser Ser Ser
 85 90 95
 Leu Asp Glu Pro Ser Pro Pro Pro Pro Ala Gly Ala Val Gln Ala Ala
 100 105 110
 Ala Leu Gly Pro Pro Leu Asp Leu Ser Leu Gly Arg His Pro Val Ala
 115 120 125
 Ala Ala Ala Ala Gly Pro Gly Pro Tyr Phe Pro Gly Ala Ala Ala Met
 130 135 140

Cys Phe Pro Val Met Pro Pro Pro Pro Arg Pro Val Phe Phe Phe Asp
 145 150 155 160
 Pro Phe Gly Arg Met Glu His
 165

<210> 839
 <211> 84
 <212> PRT
 <213> Eucalyptus grandis

<400> 839
 Cys Leu Gly Leu Ser Ser Val Ala Ala Asn Ala Glu Lys Leu Ala Ala
 1 5 10 15
 Leu Gln Asn Glu Tyr His Phe Ala Lys Ala Arg Ile Asp Glu Asp His
 20 25 30
 Glu Lys Ala Gln Arg Leu Glu Lys Lys Val Lys Thr Leu Thr Phe Gly
 35 40 45
 Tyr Gln Met Arg Glu Lys Thr Leu Arg Asp Gln Ile Glu Ser Thr Phe
 50 55 60
 Lys Gln Leu Asp Thr Ala Gly Thr Glu Leu Glu Cys Phe Pro Ala Leu
 65 70 75 80
 Gln Lys Gln Glu

<210> 840
 <211> 157
 <212> PRT
 <213> Eucalyptus grandis

<400> 840
 Pro Ser Ser Pro Val Ser Thr Lys Thr His Pro Pro Tyr Leu Cys Thr
 1 5 10 15
 Arg Pro Thr Arg Leu Ser Gln Gly Leu Arg Tyr Arg Arg Leu Ala Ala
 20 25 30
 Lys His Glu Glu Lys Pro Ser Ala Val Leu Asp Lys Ser Gln Asp Pro
 35 40 45
 Thr Asp Ser Ala Lys Pro Ser Lys Lys Pro Arg His Arg His Ser Pro
 50 55 60
 Thr Gln Leu Ala Ala Leu Asn Glu Leu Phe Glu Lys Ser Glu His Pro
 65 70 75 80
 Thr Leu Glu Glu Arg Gly Gln Leu Ala Glu Lys Leu Gly Met Glu Thr
 85 90 95
 Lys Thr Val Asn Ala Trp Phe Gln Asn Lys Arg Ala Ser Thr Lys Lys
 100 105 110
 Arg Asn Lys Gly Gly Thr Ser Glu Pro His Pro Ala Thr Ser Gln Asn
 115 120 125
 Asp Leu Ser Glu Asp Ala Leu Lys Thr Pro Ser Ala Leu Pro Ser Ile
 130 135 140
 Ala Asn Leu Leu Asn Asp Ala Pro Ser Ser Ala Ser Pro
 145 150 155

<210> 841
 <211> 86
 <212> PRT
 <213> Eucalyptus grandis

<400> 841

Arg Asn Arg Ala Met Ala Thr Ser Ser Ala Trp Trp
 50 55 60

<210> 849
 <211> 90
 <212> PRT
 <213> Eucalyptus grandis

<400> 849
 Gly Val Gly Phe Pro Asp Pro Gly Pro Asp Asn Gly Gln Val Leu Asp
 1 5 10 15
 Ala Arg Asp Pro Leu Ala Glu Lys Lys Leu Glu Leu Ala Thr Cys Gln
 20 25 30
 Arg Arg Val Glu Glu Glu Met Leu Lys His Ser Lys Ala Val Glu Val
 35 40 45
 Thr Arg Thr Ser Thr Leu Asn Asn Leu Gln Thr Gly Leu Pro Gly Val
 50 55 60
 Phe Gln Ala Leu Ala Ser Phe Ser Ser Leu Phe Met Glu Val Leu Asp
 65 70 75 80
 Thr Val Cys Thr Arg Ser Tyr Ala Ile Lys
 85 90

<210> 850
 <211> 52
 <212> PRT
 <213> Eucalyptus grandis

<400> 850
 Met Ala Ala Pro Pro Ala Glu Gln Ser Gly Ser Ala Ser Gly Gly Glu
 1 5 10 15
 Ser Gln Arg Ser Val Pro Thr Pro Phe Leu Thr Lys Thr Tyr Gln Leu
 20 25 30
 Val Asp Asp Pro Ala Ile Asp Ala Val Ile Ser Trp Asn Gly Asp Gly
 35 40 45
 Ser Ser Phe Ile
 50

<210> 851
 <211> 52
 <212> PRT
 <213> Eucalyptus grandis

<400> 851
 Met Asp Pro Met Asp Ile Val Gly Lys Ser Lys Glu Asp Ala Ser Leu
 1 5 10 15
 Pro Lys Ala Thr Met Thr Lys Ile Ile Lys Glu Met Leu Pro Pro Asp
 20 25 30
 Val Arg Val Ala Arg Asp Ala Gln Asp Leu Leu Ile Glu Cys Cys Val
 35 40 45
 Glu Phe Ile Asn
 50

<210> 852
 <211> 121
 <212> PRT
 <213> Eucalyptus grandis

<400> 852
Met Asn Ser Pro Leu Ala Gln Leu Val Asn Pro Arg Arg Met His Thr
1 5 10 15
Tyr Glu Pro Phe Asp Gln Phe Pro Met Trp Gly Asp Thr Phe Lys Ala
20 25 30
Asp Lys Val Lys Asn Leu Glu Ala Ser Ser Ser Val Ile Val His Ala
35 40 45
Val Asp Asp Gly Leu Asp Lys Lys Phe Glu Tyr Val Ser His Glu Ser
50 55 60
Ala Glu Asn Ser Ser Ser Arg Ser Asp Gln Glu Ala Asn Arg Pro Asp
65 70 75 80
Lys Val Gln Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser
85 90 95
Arg Leu Arg Lys Lys Lys Tyr Val Gln Gln Leu Glu Ser Ser Arg Leu
100 105 110
Lys Leu Ala Gln Leu Glu Leu Glu Leu
115 120

<210> 853

<211> 293

<212> PRT

<213> Eucalyptus grandis

<400> 853
Phe Val Tyr Gly Ile Ile Pro Glu Lys Gly Lys Pro Val Ser Gly Ala
1 5 10 15
Ser Asp Asn Leu Arg Ala Trp Trp Lys Glu Lys Val Arg Phe Asp Arg
20 25 30
Asn Gly Pro Ala Ala Ile Ala Lys Tyr Arg Ala Asp His Ser Ile Pro
35 40 45
Gly Asn Gly Glu Asp Ala Ala Thr Ile Gly Pro Ile Pro His Thr Leu
50 55 60
Gln Glu Leu Gln Asp Thr Thr Leu Gly Ser Leu Leu Ser Ala Leu Met
65 70 75 80
Gln His Cys Asn Pro Pro Gln Arg Arg Phe Pro Leu Glu Lys Gly Val
85 90 95
Ala Pro Pro Trp Trp Pro Thr Gly Glu Glu Glu Trp Trp Pro Gln Leu
100 105 110
Gly Leu Pro Ala Asp Gln Gly Pro Pro Pro Tyr Lys Lys Pro His Asp
115 120 125
Leu Lys Lys Ala Trp Lys Val Ser Val Leu Thr Ala Val Ile Lys His
130 135 140
Met Ser Pro Asp Ile Ser Lys Ile Arg Lys Leu Val Arg Gln Ser Lys
145 150 155 160
Cys Leu Gln Asp Lys Met Thr Ala Lys Glu Ser Ala Thr Trp Leu Ala
165 170 175
Ile Ile Asn Gln Glu Glu Ala Leu Ser Arg Lys Leu Tyr Pro Asn Ser
180 185 190
Phe Pro Pro Val Cys Ser Asp Ser Gly Phe Gly Ser Tyr Val Ile Ser
195 200 205
Asp Ala Ser Asp Tyr Asp Val Glu Gly Ala Asp Asp Glu Pro Lys Phe
210 215 220
Glu Ala Glu Glu Cys Lys Pro Phe Asp Pro Ser Ala Phe Gly Ile Gly
225 230 235 240
Pro Arg Val Ser Thr Gly Glu Leu Leu Ile His Pro Leu Val Ser Gln
245 250 255
Ile Lys Gly Glu Val Asn Glu Thr Lys Thr Asn Ser Arg Leu Val Ser

Lys Arg Asn Gln Pro Ser Asp Glu Pro Lys Ala Lys Met Asp Gln Lys
Ile Tyr Thr Cys Glu

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<210> 854
<211> 150
<212> PRT
<213> Eucalyptus grandis
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|------------|------------|------------|-----------|-----------|------------|------------|------------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----|
| | <400> | 854 | | | | | | | | | | | | | |
| Ser 1 | Thr | Ser | Ser | Gln 5 | Arg | Ala | Asp | Lys 10 | Ser | Leu | Ile | Met | Glu 15 | His | Glu |
| Phe | Ser | Ser | Ala 20 | Lys | Ile | Lys | Ala 25 | Leu | Leu | Glu | Ile | Leu 30 | Gln | Ser | Gln |
| Cys | Arg | Gly 35 | Glu | Ser | Ala | Asn 40 | Ala | Glu | Leu | His | Gly 45 | Pro | Met | Gly | Cys |
| Asp 50 | Asp | Glu | Ser | Leu | Phe 55 | Glu | Asn | Thr | Gly | Thr 60 | Gly | Asp | Ser | Thr | Tyr |
| Arg 65 | Val | Lys | Ala | Val 70 | Lys | His | Thr | Thr | Val 75 | Tyr | Ser | Ser | Ser | Pro 80 | Pro |
| Glu | Gly | Pro | Ile 85 | Lys | Ala | Ile | Val 90 | Phe | Ser | Gln | Trp | Thr 95 | Ser | Met | Leu |
| Asn | Leu | Val 100 | Glu | Gln | Asn | Leu | Ile 105 | His | Phe | Gly | Ile 110 | Asn | Tyr | Arg | Arg |
| Leu | Asp 115 | Gly | Thr | Met | Thr | Leu | Ser 120 | Ala | Arg | Asp | Lys 125 | Ala | Val | Lys | Asp |
| Phe 130 | Asn | Thr | Asp | Pro | Glu | Ile 135 | Val | Val | Met | Leu 140 | Met | Ser | Leu | Lys | Ala |
| Gly 145 | Asn | Leu | Gly | Leu | Asn 150 | | | | | | | | | | |

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<210> 855
<211> 92
<212> PRT
<213> Eucalyptus grandis
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|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | <400> | | | 855 | | | | | | | | | | | |
| Ser | Glu | Phe | Gly | Gly | Glu | Leu | Met | Asn | Pro | Arg | Ser | Asn | Trp | Leu | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Tyr | Asn | Asp | Asp | Glu | Gly | Asp | Met | Met | Leu | Val | Gly | Asp | Asp | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Gln | Glu | Phe | Cys | Gly | Ile | Val | Arg | Lys | Ile | Phe | Ile | Tyr | Thr | Arg |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Glu | Glu | Val | Gln | Lys | Met | Lys | Pro | Gly | Thr | Ile | Ser | Ala | Lys | Asp | Glu |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Asp | Asn | Leu | Met | Val | Asp | Glu | Gly | Val | Phe | Ser | Lys | Lys | Met | Thr | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asp | Thr | Leu | Pro | Ser | Ala | Ser | Asp | Pro | Lys | Asn | Cys | | | | |
| | | | | 85 | | | | | 90 | | | | | | |

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<210> 856
<211> 74
<212> PRT
<213> Eucalyptus grandis
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<400> 856
 Ile Glu Ala Leu Lys Lys Arg Leu Asp Asp Val Asn Ala Lys Tyr Ala
 1 5 10 15
 Val Ser Val Glu Phe Thr Lys Ala Met Ala Leu Asn His Leu Lys Asn
 20 25 30
 Gly Leu Pro Arg Val Phe Lys Ala Leu Met Glu Phe Ser Gly Ala Cys
 35 40 45
 Thr Lys Val Phe Glu Ala Leu Asn Asn Pro Arg Glu Gln Val Gly Ser
 50 55 60
 Arg Glu Asn Glu Pro Arg Val Leu Pro Ala
 65 70

<210> 857
 <211> 125
 <212> PRT
 <213> Eucalyptus grandis

<400> 857
 Gln Ile Leu Pro Pro Asn Ala Lys Ile Ser Lys Glu Ala Lys Glu Thr
 1 5 10 15
 Met Gln Glu Cys Val Ser Glu Phe Ile Ser Phe Val Thr Gly Glu Ala
 20 25 30
 Ser Asp Lys Cys His Lys Glu Lys Arg Lys Thr Val Asn Gly Asp Asp
 35 40 45
 Ile Val Trp Ala Leu Gly Ser Leu Gly Phe Asp Asp Tyr Ala Glu Pro
 50 55 60
 Leu Lys Arg Tyr Leu Asn Arg Tyr Arg Glu Val Glu Gly Glu Arg Ala
 65 70 75 80
 Ser Gln Asn Lys Val Thr Gly Gly Glu Ser Arg Asn Glu Lys Asn Leu
 85 90 95
 Tyr Gly Asp Glu Ser Pro Glu Lys Gln Leu Gly Ala Ala Ser Ser Ser
 100 105 110
 Pro Leu Lys Phe Phe Asp Val Ala Asp Arg Ser Thr Asn
 115 120 125

<210> 858
 <211> 113
 <212> PRT
 <213> Eucalyptus grandis

<400> 858
 Val Asn Ser Val Phe Glu Leu His Lys Leu Leu Ala Arg Pro Gly Ala
 1 5 10 15
 Ile Glu Lys Val Leu Gly Val Val Arg Gln Val Arg Pro Ala Ile Val
 20 25 30
 Thr Val Val Glu Gln Glu Ala Asn His Asn Gly Pro Val Phe Val Asp
 35 40 45
 Arg Phe Asn Glu Ser Leu His Tyr Tyr Ser Thr Leu Phe Asp Ser Leu
 50 55 60
 Glu Gly Cys Ala Ser Thr Gln Asp Lys Ala Met Ser Glu Val Tyr Leu
 65 70 75 80
 Gly Lys Gln Ile Cys Asn Val Val Ala Cys Glu Gly Ala Asp Arg Val
 85 90 95
 Glu Arg His Glu Thr Leu Ala Gln Trp Arg Val Arg Leu Gly Gly Ala
 100 105 110
 Gly

[illegible]

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Arg | Ser | Ser | Cys | Asn | Gln | Lys | Leu | Arg | Lys | Gly | Leu | Trp | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Glu | Glu | Asp | Glu | Lys | Leu | Phe | Asn | Tyr | Ile | Ser | Arg | His | Gly | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Cys | Trp | Ser | Ser | Val | Pro | Lys | Leu | Ala | Gly | Leu | Gln | Arg | Cys | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Ser | Cys | Arg | Leu | Arg | Trp | Ile | Asn | Tyr | | | | | | |
| | 50 | | | | | 55 | | | | | | | | | |

[illegible]

| | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 863 | | | | | | | | | | | | | | | |
| Asn | Ile | Gln | Arg | Asn | Glu | Tyr | His | Asn | Leu | Phe | Asn | Phe | Ile | Ser | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Gly | Leu | Lys | Ile | Met | Asn | Leu | Gly | Glu | Gln | Gly | Ala | Asp | Gly | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Val | Leu | Asp | Val | Asp | Asp | Asp | Asp | Ala | Val | Asp | Pro | His | Leu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Glu | Arg | Ile | Arg | Ile | Glu | Ala | Gly | Val | Asp | Glu | Ser | Asp | Glu | Glu | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Asp | Phe | Val | Ile | Asp | Lys | Asp | Asp | Gly | Gly | Ser | Pro | Thr | Asp | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Gly | Asp | Asp | Glu | Ser | Asp | Val | Ser | Glu | Ser | Gly | Asp | Glu | Lys | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Glu | Lys | Tyr | Gly | Lys | Lys | Glu | Ser | Arg | Lys | Glu | Val | Lys | Ala | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Ser | Lys | Lys | Lys | Ala | Lys | Ala | Gly | Asp | Glu | Glu | Gly | Ser | Lys | Lys |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Lys | Lys | Gln | Lys | Lys | Lys | Asp | Pro | Asn | Ala | Pro | Lys | Lys | Ala | Met | Ser |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Tyr | Asn | Phe | Phe | Leu | Gln | Thr | Glu | Ser | Glu | Lys | Met | Lys | Arg | Thr |

145 150 155 160
 Asn Pro Gly Leu Ser Phe Gly Asp Val Ser Arg Glu Ile Ala Asp Lys
 165 170 175
 Trp Arg Gly Leu Ser Ala
 180

<210> 864
 <211> 55
 <212> PRT
 <213> Eucalyptus grandis

<400> 864
 Met Ser Phe Thr Gly Thr Gln Val Lys Cys Lys Ala Cys Glu Lys Thr
 1 5 10 15
 Val Tyr Pro Val Glu Gln Leu Ser Ala Asp Gly Val Ala Tyr His Lys
 20 25 30
 Tyr Cys Phe Lys Cys Ser His Cys Lys Gly Thr Leu Lys Leu Ser Ser
 35 40 45
 Tyr Ser Ser Met Glu Gly Val
 50 55

<210> 865
 <211> 151
 <212> PRT
 <213> Eucalyptus grandis

<400> 865
 Asp Lys Ser Ser Ser Pro Val Pro Pro Gln Asp Gln Thr Gly Val His
 1 5 10 15
 Val Tyr His Pro Asp Trp Ala Ala Met His Ala Tyr Tyr Gly Pro Arg
 20 25 30
 Val Ala Leu Pro Pro Tyr Tyr Asn Ser Ala Val Ser Ser Gly His Gly
 35 40 45
 Pro His Pro Tyr Met Trp Gly Pro Pro Gln Pro Met Met Pro Pro Tyr
 50 55 60
 Gly Pro Pro Tyr Ala Ala Ile Tyr Ser His Gly Gly Val Tyr Gly His
 65 70 75 80
 Pro Ala Ile Pro Leu Thr Pro Thr Pro Leu Ala Ala Glu Thr Pro Lys
 85 90 95
 Lys Ser Ser Ala Asn Ser Asp Asn Gly Leu Val Lys Lys Leu Lys Ser
 100 105 110
 Phe Glu Gly Leu Ala Met Ser Ile Gly Ser Gly Gly Asp Ala Asp Ser
 115 120 125
 Ala Asp Asp Gly Thr Asp Lys Arg Ser Ser Gln Ser Ala Asp Ser Gly
 130 135 140
 Asp Ser Ser Asp Glu Asp Gln
 145 150

<210> 866
 <211> 203
 <212> PRT
 <213> Eucalyptus grandis

<400> 866
 Arg Phe Lys Gln Leu Leu Glu Glu Ala Ser Gln Asp Ile Asp His Thr
 1 5 10 15
 Thr Asp Tyr Tyr Thr Phe Arg Lys Lys Trp Gly Asn Asp Pro Arg Phe

Met Gln Asn Ile Arg Glu Ala Ile Glu Lys Tyr Ser Tyr Val Ser Met
 35 40 45
 Asp Thr Glu Phe Leu Ser Gly Ala Arg Pro Ile Gly Asn Phe Lys Thr
 50 55 60
 Ser Ser Asp Tyr His Tyr Gln Thr Met Arg Cys Asn Val Asp Leu Leu
 65 70 75 80
 Lys Ile Ile Gln Val Gly Ile Thr Leu Ala Asp Glu Glu Gly Leu Phe
 85 90 95
 Pro Gln Asp Cys Ser Thr Trp Gln Val Gln Leu
 100 105

<210> 869
 <211> 85
 <212> PRT
 <213> Eucalyptus grandis

<400> 869
 Met Gly Arg Ser Pro Cys Cys Glu Gly Asn Gly Leu Lys Lys Gly Pro
 1 5 10 15
 Trp Ser Ser Glu Glu Asp Lys Lys Leu Leu Asp Phe Ile Gln Gln His
 20 25 30
 Gly His Gly Ser Trp Ile Ser Leu Pro Lys Arg Ala Gly Leu Asn Arg
 35 40 45
 Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Trp Pro Asp
 50 55 60
 Ile Lys Arg Gly Ser Phe Ser Pro Glu Glu Glu Gln Thr Ile Leu His
 65 70 75 80
 Leu His Ser Val Leu
 85

<210> 870
 <211> 85
 <212> PRT
 <213> Eucalyptus grandis

<400> 870
 Met Pro Trp Lys Thr Gly Leu Thr Gly Ser Lys Thr Glu Glu Asp Lys
 1 5 10 15
 Ala Leu Gln Leu Cys Arg Glu Arg Lys Lys Ser Val Arg Gln Ala Val
 20 25 30
 Asp Gly Trp Gly Ser Leu Val Tyr Ala His Phe Met Phe Val Gln Ser
 35 40 45
 Leu Arg Asn Val Gly Thr Ala Leu Thr Lys Phe Phe Glu Thr Glu Ser
 50 55 60
 Pro Asn Gly Ser Pro Ser Tyr Ala Ser Met Ser Thr Thr Pro Glu Pro
 65 70 75 80
 Ile Ala Leu Thr Glu
 85

<210> 871
 <211> 104
 <212> PRT
 <213> Eucalyptus grandis

<400> 871
 Gly Leu Leu Arg Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr
 1 5 10 15

Leu Arg Pro Gly Ile Lys Arg Gly Ser Phe Thr Asp Gln Glu Glu Lys
 20 25 30
 Met Ile Val His Leu Gln Ala Leu Leu Gly Asn Arg Gly Ala Ala Ile
 35 40 45
 Ala Ser Tyr Leu Pro Gln Arg Thr Asp Asn Asp Ile Lys Asn Tyr Trp
 50 55 60
 Asn Thr His Leu Lys Lys Lys Leu Lys Lys Leu Gln Gly Gln Ala Asn
 65 70 75 80
 Pro Asp Asp Asp Asp His Asn His His Pro Gln Gly Phe Asn Ala Thr
 85 90 95
 Ser His Ser Asn Pro Lys Gly Gln
 100

<210> 872

<211> 102

<212> PRT

<213> Eucalyptus grandis

<400> 872

Met Ala Arg Thr Pro Cys Cys Glu Lys Met Gly Met Lys Lys Gly Pro
 1 5 10 15
 Trp Thr Pro Glu Glu Asp Gln Ile Leu Ile Ser His Ile His Gln Phe
 20 25 30
 Gly His Ser Asn Trp Arg Ala Leu Pro Arg Gln Ala Gly Leu Leu Arg
 35 40 45
 Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
 50 55 60
 Val Lys Arg Gly Asn Phe Thr Asp Asp Glu Arg Asp Thr Ile Ile Glu
 65 70 75 80
 Leu His Gln Val Leu Gly Asn Arg Trp Ser Ala Ile Ala Ser Arg Leu
 85 90 95
 Pro Gly Arg Thr Asp Asn
 100

<210> 873

<211> 125

<212> PRT

<213> Eucalyptus grandis

<400> 873

Trp Thr Ala Glu Glu Asp Lys Lys Leu Ile Asn Phe Ile Leu Thr His
 1 5 10 15
 Gly Gln Cys Cys Trp Arg Ala Val Pro Lys Leu Ala Gly Leu Leu Arg
 20 25 30
 Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp
 35 40 45
 Leu Lys Arg Gly Leu Leu Ser Glu Tyr Glu Glu Lys Met Val Ile Asp
 50 55 60
 Leu His Ala Gln Leu Gly Asn Arg Trp Ser Lys Ile Ala Ser His Leu
 65 70 75 80
 Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn His Trp Asn Thr His Ile
 85 90 95
 Lys Lys Lys Leu Lys Lys Met Gly Ile Asp Pro Leu Thr His Lys Pro
 100 105 110
 Leu Val Thr Asn Asn Asp Asn Thr Thr Asp Gln Gln Pro
 115 120 125

<210> 874
 <211> 114
 <212> PRT
 <213> Eucalyptus grandis

<400> 874
 Met Asp Lys Lys Pro Asp Asp Asp Ser Gly Lys Ser Gln Asp Val Glu
 1 5 10 15
 Val Arg Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn
 20 25 30
 Tyr Ile Ala Asn His Gly Glu Gly Ser Trp Asn Ser Leu Ala Lys Ala
 35 40 45
 Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
 50 55 60
 Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Thr Glu Glu Gln
 65 70 75 80
 Leu Leu Ile Met Glu Leu His Ala Lys Trp Gly Asn Arg Asp Ala His
 85 90 95
 Lys Ser His Asn Phe Ser Leu His Arg Phe Tyr Asn Ile Ile Pro Ile
 100 105 110
 Asp His

<210> 875
 <211> 127
 <212> PRT
 <213> Eucalyptus grandis

<400> 875
 Asn Gly Asp Ser Val Lys Asp Asp Leu Asp Thr Asp Glu Tyr Glu Thr
 1 5 10 15
 His Ala Thr Val Leu Asp Lys Leu Leu Ala Trp Glu Lys Lys Leu Tyr
 20 25 30
 Glu Glu Val Lys Gln Gly Glu His Met Lys Leu Glu Tyr Gln Lys Lys
 35 40 45
 Val Ala Leu Leu Asn Lys Gln Lys Lys Arg Gly Ala Ser Gly Glu Ser
 50 55 60
 Leu Glu Lys Thr Lys Ala Ala Val Ser His Leu His Thr Thr Tyr Ile
 65 70 75 80
 Val Asp Met Gln Ser Met Asp Ser Thr Ala Ser Glu Ile Asn His Ile
 85 90 95
 Arg Asp Lys Gln Leu Tyr Pro Lys Leu Ala Gln Leu Val Asp Gly Met
 100 105 110
 Ala Asn Met Trp Glu Lys Met Arg Met His His Asp Lys Gln Glu
 115 120 125

<210> 876
 <211> 153
 <212> PRT
 <213> Eucalyptus grandis

<400> 876
 Pro Glu Thr Val His Val Gln Asn Tyr Ser Pro Ile His Gln Met Gly
 1 5 10 15
 Ile Asp Gly Phe Phe Pro Ala His Pro Ser Pro Gln Asn Pro Ser Tyr
 20 25 30
 His Ser Tyr Ser Pro Asn Asn Arg Pro Asn Phe Pro Pro Pro Ser Pro

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Gln | Thr | Ser | Gln | Trp | Asp | Tyr | Phe | Trp | Asn | Pro | Phe | Ser | Ser | Leu | Asp | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Tyr | Tyr | Gly | Tyr | Pro | Thr | Arg | Ser | Ser | Ile | Asp | His | Met | Ala | Met | Asp | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Asp | Glu | Thr | Arg | Gly | Leu | Arg | Gln | Val | Arg | Glu | Glu | Glu | Gly | Ile | Pro | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Asp | Leu | Glu | Glu | Glu | Thr | Glu | His | Glu | Glu | Cys | Asp | His | His | Ser | Tyr | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Val | Asp | Glu | Asp | Arg | Gly | Asn | Arg | Asp | Ala | Asn | Phe | Pro | Thr | Glu | Glu | | |
| | 115 | | | | | 120 | | | | | | 125 | | | | | |
| Val | Leu | Val | Glu | Asp | Val | Asp | Asp | Glu | Glu | Glu | Asp | Glu | Asp | Glu | Gly | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Asn | Arg | His | Ser | Cys | Glu | Ser | Glu | Asp | | | | | | | | | |
| 145 | | | | | 150 | | | | | | | | | | | | |

<210> 877

<211> 62

<212> PRT

<213> Eucalyptus grandis

<400> 877

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Leu | Arg | Ala | Gln | Leu | Met | Glu | Leu | Thr | Asp | Arg | Leu | Arg | Ser | Leu | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Asn | Ser | Val | Leu | Gln | Val | Val | Glu | Val | Val | Ser | Gly | Leu | Ala | Ile | Asp | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Ile | Pro | Glu | Ile | Pro | Asp | Pro | Leu | Met | Asn | Pro | Trp | Gln | Leu | Pro | Cys | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Pro | Met | Gln | Pro | Ile | Thr | Ala | Ser | Ala | Asp | Met | Leu | Gln | Leu | | | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |

<210> 878

<211> 135

<212> PRT

<213> Eucalyptus grandis

<400> 878

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Leu | Thr | Leu | Thr | Ala | Ala | Ser | Thr | Val | Ile | Phe | Ala | Glu | Leu | Ser | Trp | | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | | |
| Thr | Pro | Gly | Asp | Leu | Ile | Gln | Ala | Glu | Asp | Arg | Ala | His | Arg | Ile | Gly | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Gln | Val | Ser | Ser | Val | Asn | Ile | Tyr | Tyr | Leu | Leu | Ala | Asn | Asp | Thr | Val | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Asp | Asp | Ile | Ile | Trp | Asp | Val | Val | Gln | Ser | Lys | Leu | Glu | Asn | Leu | Gly | | |
| | 50 | | | | 55 | | | | | 60 | | | | | | | |
| Gln | Val | Leu | Asp | Gly | His | Glu | Asn | Thr | Leu | Glu | Val | Ser | Ala | Ser | Gln | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Pro | Thr | Arg | Asn | Ser | Pro | Ala | Lys | Gln | Lys | Thr | Phe | Asn | Ser | Pro | Gly | | |
| | | | 85 | | | | | 90 | | | | | | 95 | | | |
| Lys | Gln | His | Thr | Phe | Asn | Ser | Pro | Gly | Lys | Gln | Gln | Lys | Phe | Asn | Ser | | |
| | | 100 | | | | | 105 | | | | | 110 | | | | | |
| Pro | Gly | Lys | Gln | Thr | Thr | Leu | Asp | Ser | Phe | Met | Lys | Arg | Cys | Asn | Ser | | |
| | 115 | | | | | 120 | | | | | | 125 | | | | | |
| Gly | Asp | Pro | Ser | Glu | His | Gln | | | | | | | | | | | |
| | 130 | | | | | 135 | | | | | | | | | | | |

<210> 879

<211> 138
 <212> PRT
 <213> Eucalyptus grandis

<400> 879
 Met Ala Leu Glu Ala Ile Asn Ser Pro Thr Ala Ala Ser Ala Pro Phe
 1 5 10 15
 Gln Phe Met Glu Glu Pro Leu Ser Ser Arg Phe Leu Glu Pro Leu Asn
 20 25 30
 Lys Arg Lys Arg Ser Lys Arg Pro His His Pro Pro Ser Glu Asp Glu
 35 40 45
 Tyr Leu Ala Leu Cys Leu Ile Met Leu Ala Arg Ser Gly Ala Ala Pro
 50 55 60
 Lys Pro Asn His His Ala Ser Pro Ala Pro Leu Pro Pro Pro Pro
 65 70 75 80
 Pro Ala Pro Thr Lys Pro Glu Glu Ala Ala Ala Thr Ala Thr Ala Thr
 85 90 95
 Ala Ala Pro Ala Asn Asn Leu Ser Tyr Lys Cys Ala Val Cys Gly Lys
 100 105 110
 Gly Phe Pro Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His Arg
 115 120 125
 Lys Ser Ala Ala Ala Ala Ala Ala Ala Ala
 130 135

<210> 880
 <211> 124
 <212> PRT
 <213> Eucalyptus grandis

<400> 880
 Ala Ile Ala Leu Val Leu Ala Lys Arg Glu Ile Ile Arg Ser Ile Gly
 1 5 10 15
 Thr Gly Leu Asp Trp Ser Ser Pro Ser Ala Gly Ser Ser Thr Ser Leu
 20 25 30
 Pro Glu Ile Lys Gly Thr Leu Val Ile Cys Pro Val Val Ala Val Thr
 35 40 45
 Gln Trp Val Gly Glu Ile Asn Cys Ser Thr Ala Gln Gly Ser Thr Lys
 50 55 60
 Val Leu Val Tyr His Gly Ala Asn Arg Gly Lys Thr Ala Asp Gln Phe
 65 70 75 80
 Lys Asn Phe Asp Phe Val Val Thr Thr Tyr Ser Leu Val Glu Gly Glu
 85 90 95
 Tyr Arg Lys Phe Val Met Pro Pro Lys Lys Lys Cys Ile Tyr Cys Gly
 100 105 110
 Lys Leu Leu Tyr Lys Glu Lys Met Thr Val His Leu
 115 120

<210> 881
 <211> 196
 <212> PRT
 <213> Eucalyptus grandis

<400> 881
 Pro Asp Leu Pro Gly Asp Asp Leu Ala Leu Glu Phe Glu Glu Phe Asp
 1 5 10 15
 Phe Gln Ser Leu Phe Asp Glu Leu Ser Pro Asp Ala Ala Gly Leu Leu
 20 25 30

Asp Ala Ser Asp Val Asp Ala Ser Ser Pro Gly Ser Leu Ser Ser Trp
 35 40 45
 Ile Gly Glu Ile Glu Gly Met Leu Met Lys Asp Asp Glu Glu Ala Val
 50 55 60
 Ala Val Glu Pro Ser Gln Glu Val Phe Asp Arg Phe Phe Ala Gly Leu
 65 70 75 80
 Leu Val Asp Ser Pro Glu Gly Gly Pro Ala Glu Ala Thr Asp Gly Ala
 85 90 95
 Ser Asp Lys Glu Ser Asn Ser Ser Asp Gly Gly Gly Gly Gly Gly Gly
 100 105 110
 Glu Arg Asp Glu Lys Leu Val Val Gly Asp Asn Glu Leu Ser Glu Asp
 115 120 125
 Ala Asp Asp Asp Asp Pro Val Ser Lys Lys Gln Arg Arg Gln Leu Arg
 130 135 140
 Asn Lys Asp Ala Ala Ala Arg Ser Arg Glu Arg Lys Arg Ser Tyr Val
 145 150 155 160
 Lys Glu Leu Glu Met Lys Ser Lys Tyr Met Glu Gly Glu Cys Arg Arg
 165 170 175
 Leu Gly Arg Leu Leu Gln Cys Phe Val Ala Glu Asn Gln Ala Leu Arg
 180 185 190
 Leu Asn Leu Glu
 195

<210> 882
 <211> 102
 <212> PRT
 <213> Eucalyptus grandis

<400> 882
 Val Ile Ser Ser Gln Ser Met His Leu Gly Val Leu Ala Thr Ala Ser
 1 5 10 15
 His Ala Val Thr Gln Thr Leu Phe Val Val Tyr Tyr Lys Pro Arg
 20 25 30
 Thr Ser Gln Phe Ile Ile Ser Leu Asn Lys Tyr Leu Glu Ala Leu Asn
 35 40 45
 Asn Lys Phe Thr Val Gly Met Arg Phe Lys Met Arg Phe Glu Gly Glu
 50 55 60
 Asp Ser Pro Glu Arg Arg Phe Ser Gly Thr Ile Val Gly Val Glu Asp
 65 70 75 80
 Phe Ser Pro Gln Trp Asp Asn Ser Ser Trp Arg Ser Leu Lys Val His
 85 90 95
 Trp Asp Glu His Ala Ser
 100

<210> 883
 <211> 69
 <212> PRT
 <213> Eucalyptus grandis

<400> 883
 Phe Asn Gln Leu Asp Pro Arg Ile Asn Arg Lys Pro Phe Ser Glu Glu
 1 5 10 15
 Glu Glu Glu Arg Leu Leu Thr Ala His Lys Leu Cys Gly Asn Lys Trp
 20 25 30
 Ala Met Ile Ala Arg Leu Phe Pro Gly Arg Thr Asp Asn Ala Val Lys
 35 40 45
 Asn His Trp His Val Ile Val Ala Arg Lys Gln Arg Glu Gln Ser Asn

50
Asn Ala Arg Gly Arg
65

55

60

<210> 884
<211> 74
<212> PRT
<213> Eucalyptus grandis

<400> 884
Gln Lys Tyr Phe Ile Arg Gln Ser Asn Val Ser Lys Arg Lys Arg Arg
1 5 10 15
Ser Ser Leu Phe Asp Ile Val Ala Glu Glu Ser Val Asp Val Pro Met
20 25 30
Gly Ser Arg Asp Phe Phe Ala Val Asp Glu Gln Gln Gln Glu Thr Glu
35 40 45
Val Asn Asp Ala Leu Gln Gln Leu Pro Pro Asp Val Asp Glu Glu Cys
50 55 60
Glu Ser Met Asp Ser Thr Asn Ser Asn Thr
65 70

<210> 885
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 885
Ser Ser Ser Ser Arg His Glu Ser Arg His Pro Ile Pro Leu Leu Thr
1 5 10 15
Asn Gly Gln Pro Met Ser Gly Glu Ile Pro Cys Ala Ser Ile Asp Ser
20 25 30
Pro Ser Val Arg Thr Thr Ser Gly Pro Leu Gly Pro Phe Asp Lys His
35 40 45
Val His Ser Leu Pro Tyr Val Asp Pro Arg Gln Pro Val
50 55 60

<210> 886
<211> 142
<212> PRT
<213> Eucalyptus grandis

<400> 886
Ser Pro Pro Leu Ser Ala His Val Ala Ser His Lys Gly Leu His Gln
1 5 10 15
Ala Ser Lys Pro Lys Ile His Glu Cys Asn Ile Cys Gly Ser Glu Phe
20 25 30
Ala Ser Gly Gln Ala Leu Gly Gly His Met Arg Arg His Arg Ser Ala
35 40 45
Pro Pro Pro Thr Ala Thr Ser Ala Asp Ala Thr Ser Pro Thr Asn Pro
50 55 60
Pro Ala Ala Ala Ala Ile Thr Thr Glu Lys Ser Arg Asn Ile Leu Ser
65 70 75 80
Leu Asp Leu Asn Leu Pro Ala Pro Asn Gly Gly Gly Ser Pro Pro Pro
85 90 95
Ser Ala Pro Pro Pro Gly Glu Leu Glu Val Pro Ile Arg His Lys Ser
100 105 110
Thr Ala His His Thr Ser Leu Ala Arg Leu Gly Gly Leu Pro Leu Leu

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | 115 | | | | | 120 | | | | 125 | | | |
| Lys | Lys | Lys | Glu | Lys | Thr | Gly | Ser | His | Val | Asn | Gln | Cys | Asn | |
| | 130 | | | | | 135 | | | | | 140 | | | |

<210> 887

<211> 139

<212> PRT

<213> Eucalyptus grandis

<400> 887

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Ser | Asp | Ile | Asn | Leu | Val | Ser | Asn | Ser | Thr | His | Ser | Ser | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Asp | Gly | Gly | Ser | Pro | Arg | Arg | Ile | Thr | Ser | Glu | Ser | Asp | Pro | Lys |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Asp | Ala | Pro | Met | Gly | Thr | Glu | Ser | Leu | Leu | Ser | Ala | Pro | Glu | Ala | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Leu | Ser | Asp | Thr | Gly | Thr | Ser | Phe | Thr | Phe | Lys | Met | Asp | Ser | Ser |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Met | Gln | Arg | Lys | Pro | Pro | Val | Asp | Glu | Ser | Pro | Arg | Met | His | Pro | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Pro | Met | Asn | Leu | Thr | Thr | Glu | Glu | Gly | Asp | Asn | Asn | Val | Ser | Cys | Gln |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Leu | Asn | Leu | Ser | Leu | Ala | Ser | Ser | Leu | Leu | Gln | Val | Asp | His | Ser | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gln | Phe | Asn | Arg | Leu | Asn | Val | Leu | Gly | Ser | Glu | Thr | Ser | Lys | Ser | Pro |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| Asp | Ala | Arg | Ser | Asn | Ala | Ser | Ile | Thr | Glu | Ser | | | | | |
| | 130 | | | | | 135 | | | | | | | | | |

<210> 888

<211> 36

<212> PRT

<213> Eucalyptus grandis

<400> 888

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Pro | Glu | Tyr | Asn | Ser | Ser | Pro | Val | Gly | Tyr | Met | Glu | Thr | Asn | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Arg | Leu | Val | Leu | Glu | Lys | Asp | Asp | Leu | Gly | Leu | Asn | Leu | Met | Pro |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Pro | Ser | Thr | Cys | | | | | | | | | | | | |
| | | 35 | | | | | | | | | | | | | |

<210> 889

<211> 176

<212> PRT

<213> Eucalyptus grandis

<400> 889

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Ile | Gly | Ala | Lys | Ala | Asp | Val | Phe | His | Ile | Leu | Ser | Gly | Met | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Thr | Pro | Ala | Glu | Arg | Cys | Phe | Met | Trp | Leu | Gly | Gly | Phe | Arg | Ser |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ser | Glu | Leu | Leu | Lys | Ile | Leu | Gly | Asn | His | Leu | Glu | Pro | Leu | Thr | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Gln | Leu | Met | Gly | Ile | Cys | Asn | Leu | Gln | Gln | Ser | Ser | Gln | Gln | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Asp | Ala | Leu | Ser | Gln | Gly | Met | Glu | Ala | Leu | Gln | Gln | Ser | Leu | Val |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| 65 | Asp | Thr | Leu | Ser | Ser | 70 | Thr | Thr | Leu | Ser | 75 | Pro | Thr | Gly | Ser | Gly | Asn | 80 | Val |
| | | | | | 85 | | | | | | | 90 | | | | | 95 | | |
| | Ala | Glu | Tyr | Met | Gly | Gln | Met | Ala | Ile | Ala | Met | Gly | Lys | Leu | Ala | Thr | | | |
| | | | | 100 | | | | | 105 | | | | | | 110 | | | | |
| | Leu | Glu | Asn | Phe | Val | His | Gln | Ala | Asp | Leu | Leu | Arg | Gln | Gln | Thr | Leu | | | |
| | | | 115 | | | | | 120 | | | | | 125 | | | | | | |
| | Gln | Gln | Met | His | Arg | Ile | Leu | Thr | Thr | Arg | Gln | Ala | Ala | Arg | Ala | Leu | | | |
| | | | 130 | | | | 135 | | | | | 140 | | | | | | | |
| | Leu | Val | Ile | Asn | Asp | Tyr | Ile | Ser | Arg | Leu | Arg | Ala | Leu | Ser | Ser | Leu | | | |
| 145 | | | | | | 150 | | | | | 155 | | | | | 160 | | | |
| | Trp | Leu | Ala | Arg | Pro | Arg | Thr | Glu | Asn | Ile | Cys | Ser | Ala | Lys | Leu | Phe | | | |
| | | | | | 165 | | | | | 170 | | | | | 175 | | | | |

<210> 890
 <211> 33
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | Lys | Lys | Arg | Leu | Met | Val | Ala | Ser | Ala | Phe | Gly | Glu | Asp | Glu | Lys | Ala | | | |
| | 1 | | | | 5 | | | | | 10 | | | | | 15 | | | | |
| | Gly | Arg | Gln | Thr | Arg | Leu | Thr | Val | Glu | Asp | Leu | Asn | Tyr | Leu | Phe | Met | | | |
| | | | | 20 | | | | | 25 | | | | | 30 | | | | | |
| | Ala | | | | | | | | | | | | | | | | | | |

<210> 891
 <211> 51
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | Met | Arg | Asp | Leu | Cys | Leu | Asp | Gln | Arg | Glu | Met | Ala | Ser | Gly | Ser | Ser | | | |
| | 1 | | | | 5 | | | | | 10 | | | | | 15 | | | | |
| | Arg | Val | Glu | Ala | Arg | Ala | Asp | Ala | Glu | Met | Ala | Leu | Tyr | Asn | Glu | Leu | | | |
| | | | | 20 | | | | 25 | | | | | | 30 | | | | | |
| | Trp | Gln | Ala | Cys | Ala | Gly | Pro | Leu | Val | Ala | Val | Pro | Arg | Gln | Gly | Glu | | | |
| | | | 35 | | | | | 40 | | | | | 45 | | | | | | |
| | Arg | Val | Phe | | | | | | | | | | | | | | | | |
| | | | 50 | | | | | | | | | | | | | | | | |

<210> 892
 <211> 77
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | Met | Leu | Ser | Pro | Ser | Gly | Ser | Ser | Pro | Leu | Ala | Gln | Ser | Thr | Gly | Arg | | | |
| | 1 | | | | 5 | | | | | 10 | | | | | 15 | | | | |
| | His | Pro | Leu | Tyr | Arg | Gly | Val | Arg | Ser | Arg | Ser | Gly | Lys | Trp | Val | Ser | | | |
| | | | | 20 | | | | 25 | | | | | | 30 | | | | | |
| | Glu | Ile | Arg | Glu | Pro | Arg | Lys | Thr | Thr | Arg | Ile | Trp | Leu | Gly | Thr | Tyr | | | |
| | | | | 35 | | | | 40 | | | | | 45 | | | | | | |
| | Pro | Asn | Pro | Glu | Met | Ala | Ala | Ala | Ala | Phe | Asp | Val | Ala | Ala | Leu | Ala | | | |
| | | | | 50 | | | 55 | | | | | 60 | | | | | | | |
| | Leu | Lys | Gly | Ser | Asp | Ala | Ala | Leu | Asn | Phe | Pro | His | Asp | | | | | | |

65

70

75

<210> 893

<211> 95

<212> PRT

<213> Eucalyptus grandis

<400> 893

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Pro | Gln | Gly | His | Met | Glu | Gln | Leu | Glu | Ala | Ser | Thr | Asn | Gln | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Asn | Gln | Arg | Ile | Pro | Leu | Phe | Asn | Leu | Thr | Ser | Lys | Ile | Leu | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Val | Val | Asn | Val | Gln | Leu | Leu | Ala | Glu | Gln | Glu | Thr | Asp | Glu | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Tyr | Ala | Gln | Ile | Thr | Leu | Ile | Pro | Ala | Gly | Asn | Leu | Met | Glu | Pro | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Pro | Asp | Pro | Val | Ser | Ala | Glu | Thr | Pro | Arg | Thr | Arg | Val | His | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Phe | Cys | Lys | Val | Leu | Thr | Ala | Ser | Asp | Thr | Ser | Thr | His | Gly | Gly | |
| | | | | 85 | | | | | 90 | | | | | 95 | |

<210> 894

<211> 79

<212> PRT

<213> Eucalyptus grandis

<400> 894

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Ser | Asn | Ile | Asn | Phe | Lys | Asn | Phe | Ser | Thr | Asp | Pro | Thr | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Asn | Asn | Arg | Pro | Pro | Gly | Asn | Thr | Leu | Leu | Thr | Arg | Gln | Pro | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Tyr | Thr | Leu | Thr | Phe | Glu | Glu | Phe | Gln | Asn | Ser | Ile | Gly | Lys | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Gly | Ser | Met | Asn | Met | Asp | Glu | Leu | Ile | Lys | Asn | Ile | Trp | Ser | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Glu | Asn | Gln | Ser | Met | Ala | Ser | Ala | Ser | Gly | Ala | Cys | Gly | Gly | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 895

<211> 57

<212> PRT

<213> Eucalyptus grandis

<400> 895

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Ala | Cys | Gly | Ser | Tyr | Glu | Tyr | Ser | Glu | Gln | Tyr | His | Asp | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Lys | Pro | Ala | Tyr | Gly | Pro | Gln | Ile | Ser | Ala | His | Ser | Gln | Tyr | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Tyr | Asn | Ser | Leu | Arg | Leu | Gly | Leu | Pro | Leu | Arg | Val | Ala | Glu | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Val | Tyr | Val | Asn | Ala | Lys | Gln | Tyr | | | | | | | |
| | 50 | | | | | | 55 | | | | | | | | |

<210> 896

<211> 167

<212> PRT

<213> Eucalyptus grandis

<400> 896
 Pro Asp Val Pro Leu Pro Ser Pro Ala Gly Asp Val Thr Asp Ala Glu
 1 5 10 15
 Trp Phe Tyr Val Met Ser Leu Thr Arg Ser Phe Ser Ala Gly Asp Gly
 20 25 30
 Ile Pro Gly Lys Ala Leu Ser Thr Gly Ser Leu Val Trp Leu Thr Gly
 35 40 45
 Ala Arg Glu Leu Glu Ser Tyr Lys Cys Asp Arg Ala Lys Glu Ala Glu
 50 55 60
 Leu His Gly Ile Arg Thr Met Val Cys Ile Pro Thr Gly Asp Gly Val
 65 70 75 80
 Leu Glu Leu Gly Ser Cys Asp Val Ile Pro Glu Asn Trp Gly Leu Val
 85 90 95
 Gln Arg Ala Lys Ser Leu Phe Gly Ser Asp Leu Leu Leu Pro Lys His
 100 105 110
 Pro Pro Pro Pro Pro Pro Pro Phe Gln Leu His His Asp His Ser Asp
 115 120 125
 Ile Ser Phe Ala Asp Ile Gly Ile Ile Ala Gly Val Gln Glu Asn Asp
 130 135 140
 Phe Ala Pro His Asp Asp His Glu Lys Lys Val Lys Lys Lys Gln Pro
 145 150 155 160
 Leu Val Glu Gly Ala Gly Gly
 165

<210> 897
 <211> 125
 <212> PRT
 <213> Eucalyptus grandis

<400> 897
 Val Ala Gly Met Thr Arg Gly Arg Arg Asp Gly Ile Leu Lys Ser Glu
 1 5 10 15
 Lys Thr Arg His Val Val Lys Ile Gly Pro Met His Leu Lys Gly Val
 20 25 30
 Trp Ile Pro Tyr Glu Arg Ala Leu Glu Phe Ala Asn Arg Glu Lys Ile
 35 40 45
 Thr Glu Tyr Leu Tyr Pro Leu Phe Val His Asp Ile Gly Ala Leu Leu
 50 55 60
 Tyr His Pro Ser Asn Pro Ser Gly Ala Thr Ser Arg Ala Gly Asn Ala
 65 70 75 80
 Gln Asn Thr Leu Ala Ala Ile Asp Arg Arg Arg Asn Glu Ala Arg Met
 85 90 95
 Ala Ala Ser Ile Gln Gly Gln Ala Val Ser Gly Val Leu Val Ser Pro
 100 105 110
 Val Ala Gln Thr Ala Gly Gly Arg Pro Ser Val Asp Arg
 115 120 125

<210> 898
 <211> 120
 <212> PRT
 <213> Eucalyptus grandis

<400> 898
 Asn Asn Leu Ser Leu Tyr Asp Asn Gly Val Gly Ser Thr Pro Arg Pro
 1 5 10 15
 Arg Ser Asn Ala Glu Gln Leu Ile Phe Arg Ala Ala Leu Gln Asp Leu

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Ser | Gln | Pro | Lys | Ser | Glu | Glu | Thr | Pro | Pro | Asp | Gly | Ala | Leu | Ala | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Leu | Leu | Arg | His | Gln | Lys | Ile | Ala | Leu | Ser | Trp | Met | Val | Lys | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Thr | Ala | Ile | Asn | Cys | Cys | Gly | Gly | Ile | Leu | Ala | Asp | Asp | Gln | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Leu | Gly | Lys | Thr | Val | Ser | Thr | Ile | Ala | Leu | Ile | Leu | Lys | Glu | Arg | Pro |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Pro | Thr | Phe | Lys | Gln | Cys | Gln | Glu | Asn | Pro | Lys | Gln | Glu | Leu | Gln | Thr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Asp | Leu | Asp | Glu | Asp | Glu | Asn | | | | | | | | |
| | | 115 | | | | | 120 | | | | | | | | |

<210> 899

<211> 58

<212> PRT

<213> Eucalyptus grandis

<400> 899

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Leu | Ser | Ala | Lys | Ser | Glu | Ser | Ile | Gln | Ile | Arg | Asp | Val | Trp |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Asp | Asp | Asn | Leu | Asp | Glu | Glu | Phe | Ala | Arg | Ile | Arg | Glu | Ile | Val | Asp |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Asp | Tyr | Pro | Tyr | Val | Ala | Met | Asp | Thr | Glu | Phe | Pro | Gly | Ile | Val | Val |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Arg | Pro | Val | Gly | Asn | Phe | Lys | Asn | Ser | Ser | | | | | | |
| | 50 | | | | | 55 | | | | | | | | | |

<210> 900

<211> 94

<212> PRT

<213> Eucalyptus grandis

<400> 900

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Asp | Ser | Asp | Asn | Asp | Ser | Gly | Gly | His | Asn | Asn | Ala | Asn | Ser |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Glu | Ser | Ala | Ala | Ala | Leu | Ala | Arg | Glu | Gln | Asp | Arg | Phe | Leu | Pro | Ile |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ala | Asn | Val | Ser | Arg | Ile | Met | Lys | Lys | Ala | Leu | Pro | Ala | Asn | Ala | Lys |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Ile | Ser | Lys | Glu | Ala | Lys | Glu | Thr | Val | Gln | Glu | Cys | Val | Ser | Glu | Phe |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Ile | Ser | Phe | Ile | Thr | Gly | Glu | Ala | Ser | Asp | Gly | Ser | Ser | Ser | Ile | Gly |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Gly | Gly | Gly | Gly | Gly | Val | Val | Asn | Ser | Gly | Gly | Gly | Ser | Ala | | |
| | | | | 85 | | | | 90 | | | | | | | |

<210> 901

<211> 169

<212> PRT

<213> Eucalyptus grandis

<400> 901

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ile | Asn | Pro | Asp | Arg | Trp | Glu | Phe | Val | Asn | Gln | Gly | Phe | Gln | Lys |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Gly | Asn | Lys | His | Leu | Leu | Lys | Asn | Ile | Lys | Arg | Arg | Cys | Lys | Phe | Ser |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | 20 | | | | | 25 | | | | 30 | | | | |
| Glu | His | Arg | Lys | Thr | Ser | Ser | Ser | Thr | Val | Thr | Ser | Asp | Tyr | Gln | Lys | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Ala | Glu | Asn | Glu | Val | Glu | Leu | Asn | Thr | Leu | Lys | Lys | Gly | Gln | Glu | Val | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Leu | Lys | Thr | Arg | Ser | Leu | Lys | Leu | Arg | Glu | Glu | Arg | Lys | Ser | Phe | Gln | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| His | Glu | Ile | Glu | Gln | Val | Ala | Glu | Arg | Val | Arg | His | Ala | Glu | Cys | Arg | |
| | | | 85 | | | | | 90 | | | | | | 95 | | |
| Asn | Gln | Gln | Ile | Phe | Leu | Phe | Leu | Thr | Lys | Ala | Ala | Lys | Ser | Pro | Asn | |
| | | 100 | | | | | | 105 | | | | | 110 | | | |
| Phe | Val | His | His | Leu | Ile | Gln | Lys | Lys | Ser | Gln | Lys | Arg | Asp | Leu | Glu | |
| | 115 | | | | | | 120 | | | | | 125 | | | | |
| Thr | Cys | Glu | Ser | Ser | Lys | Lys | Ser | Lys | Leu | Leu | Gly | Ser | Asp | Ala | Glu | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Ala | Thr | Lys | Phe | Leu | Asn | Glu | Ala | Met | Asp | His | Met | Ile | Lys | Ser | Pro | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Asn | Val | Asp | Cys | Leu | Arg | Ile | Ser | Asp | | | | | | | | |
| | | | | 165 | | | | | | | | | | | | |

<210> 902

<211> 266

<212> PRT

<213> Eucalyptus grandis

<400> 902

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Gly | Ile | Leu | Ala | Ala | Ala | Ala | His | Ala | Ala | Ala | Asn | Asn | Ser | Pro | Phe | |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | | |
| Thr | Ile | Phe | Tyr | Asn | Pro | Arg | Ala | Ser | Pro | Ser | Glu | Phe | Val | Ile | Pro | |
| | | 20 | | | | | | 25 | | | | | 30 | | | |
| Leu | Ala | Lys | Tyr | Asn | Lys | Ala | Phe | Tyr | Thr | Gln | Val | Ser | Leu | Gly | Met | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Arg | Phe | Arg | Met | Met | Phe | Glu | Thr | Glu | Glu | Ser | Gly | Val | Arg | Arg | Tyr | |
| | 50 | | | | 55 | | | | | 60 | | | | | | |
| Met | Gly | Thr | Ile | Thr | Gly | Ile | Ser | Asp | Leu | Asp | Ser | Val | Arg | Trp | Lys | |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | | |
| Asn | Ser | Gln | Trp | Arg | Asn | Leu | Gln | Val | Gly | Trp | Asp | Glu | Ser | Thr | Ala | |
| | | 85 | | | | | | 90 | | | | | | 95 | | |
| Gly | Glu | Arg | Pro | Ser | Arg | Val | Ser | Met | Trp | Glu | Ile | Glu | Pro | Val | Val | |
| | | 100 | | | | | | 105 | | | | | 110 | | | |
| Thr | Pro | Phe | Tyr | Ile | Cys | Pro | Pro | Pro | Phe | Phe | Arg | Pro | Lys | Phe | Pro | |
| | 115 | | | | | 120 | | | | | | 125 | | | | |
| Arg | Gln | Pro | Asp | Asp | Glu | Ser | Asp | Val | Glu | Asn | Ala | Phe | Lys | Arg | Ala | |
| | 130 | | | | 135 | | | | | | 140 | | | | | |
| Met | Pro | Trp | Leu | Gly | Asp | Glu | Phe | Gly | Ile | Lys | Asp | Thr | Pro | Asn | Ser | |
| 145 | | | | 150 | | | | 155 | | | | | | | 160 | |
| Ile | Phe | Pro | Gly | Leu | Ser | Leu | Met | Gln | Trp | Met | Ser | Met | Gln | Gln | Ser | |
| | | | 165 | | | | | 170 | | | | | | 175 | | |
| Asn | Pro | Leu | Gln | Ala | Thr | Gln | Ser | Gly | Leu | Leu | Pro | Pro | Met | Leu | Ser | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Ser | Thr | Gly | Leu | His | Asn | Asn | Leu | Gly | Ile | Asp | Asp | Pro | Ser | Lys | Leu | |
| | 195 | | | | | 200 | | | | | | 205 | | | | |
| Leu | Ser | Phe | Gln | Ala | Pro | Thr | Gln | Gly | Leu | Gln | Phe | Asn | Lys | Thr | Asn | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Pro | Gln | Asn | Gln | Val | Ser | Gln | Leu | Leu | Gln | Pro | Ser | Met | Ala | Trp | Ser | |
| 225 | | | | 230 | | | | 235 | | | | | | 240 | | |
| Gln | Gln | His | Gln | Leu | Gln | Gln | Leu | Leu | Gln | Asn | Pro | Leu | Gly | His | Gln | |

Gln Gln Gln Gln Gln Gln Gln Leu Gln Arg 245 250 255
 260 265

<210> 903
 <211> 101
 <212> PRT
 <213> Eucalyptus grandis

<400> 903
 Val Pro Ser Met Lys Pro Glu Tyr Pro Val Pro Asn Gly Ile Gly Ala
 1 5 10 15
 Ser Asp Phe Gly Glu Ser Phe Arg Phe Gln Lys Val Leu Gln Gly Gln
 20 25 30
 Glu Asn Leu Gly Phe Gly Thr Pro Tyr Asp Gly Ile Glu Thr Gln Ser
 35 40 45
 His Arg Leu Ser Glu Val Arg Arg His His Pro Asp Asp Ser Gly Gly
 50 55 60
 Ser Glu Ala Ala Ala Thr Arg Asn Gly Ile Thr Asn Pro Ser Val Asn
 65 70 75 80
 Ala Ser Val Thr Tyr Lys Gly Met Gly Phe Gly Glu Ser Phe Arg Phe
 85 90 95
 Arg Glu Val Leu Gln
 100

<210> 904
 <211> 142
 <212> PRT
 <213> Eucalyptus grandis

<400> 904
 Pro Pro Ser Pro Leu Leu Pro Pro Pro Ser Ile Pro Lys Thr Leu Leu
 1 5 10 15
 Arg Ile Asp Ser Gly Ser Pro Leu Arg Pro Pro Pro Pro Pro Ala Ala
 20 25 30
 Met Asp Ala Ala Pro Pro Gly Gly Gly Gly Gly Gly Gly Pro Ala
 35 40 45
 Pro Phe Leu Leu Lys Thr Tyr Glu Met Val Asp Asp Ala Gly Thr Asp
 50 55 60
 Glu Ile Val Ala Trp Ser Ser Gly Lys Thr Ser Phe Val Val Trp Asn
 65 70 75 80
 Pro Pro Glu Phe Ala Arg Leu Leu Leu Pro Thr Tyr Phe Lys His Asn
 85 90 95
 Asn Phe Ser Ser Phe Ile Arg Gln Leu Asn Thr Tyr Gly Phe Arg Lys
 100 105 110
 Ile Asp Pro Glu Arg Trp Glu Phe Ala Asn Glu Glu Phe Val Lys Asp
 115 120 125
 Lys Lys His Leu Leu Lys Asn Ile His Arg Arg Lys Pro Ile
 130 135 140

<210> 905
 <211> 80
 <212> PRT
 <213> Eucalyptus grandis

<400> 905
 Met Tyr Val Leu Glu Gly Val Thr Pro Cys Ile Gln Ser Met Gln Leu

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 1 | | | 5 | | | | | 10 | | | | | 15 | | | |
| Gln | Ala | Gly | Asp | Thr | Val | Thr | Phe | Ser | Arg | Met | Asp | Pro | Glu | Ala | Lys | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Leu | Ile | Met | Gly | Phe | Arg | Lys | Ala | Ser | Thr | Ser | Met | Met | Gln | Asp | Ser | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Gln | Leu | Ala | Ala | Val | Ser | Asn | Gly | Asn | His | Ser | Ser | Glu | Ala | Leu | Ile | |
| | 50 | | | | | 55 | | | | 60 | | | | | | |
| Ser | Gly | Gly | Phe | Glu | Asn | Val | Pro | Met | Ile | Ser | Gly | Tyr | Ser | Ser | Leu | |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 | |

<210> 906
 <211> 30
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Arg | Thr | Gly | Lys | Ala | Glu | Ser | Glu | Cys | Leu | Cys | Pro | Arg | Asn | Ser | Gly | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | |
| Leu | Leu | Asp | Ala | Leu | Val | His | Glu | Ser | Lys | Thr | Met | Ser | Ser | | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |

<210> 907
 <211> 69
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Met | Asn | Gln | Val | Ala | Asp | Arg | Gln | Ile | Pro | Phe | Tyr | Asn | Leu | Pro | Ser | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | |
| Lys | Ile | Leu | Cys | Arg | Val | Ile | Asn | Val | Gln | Leu | Arg | Ala | Glu | Pro | Glu | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |
| Thr | Asp | Glu | Leu | Phe | Ala | Gln | Val | Thr | Leu | Leu | Pro | Val | Pro | Asn | Gln | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Asp | Glu | Thr | Ala | Val | Glu | Lys | Glu | Thr | Gly | Ile | Pro | Cys | Leu | Gln | Arg | |
| | 50 | | | | | 55 | | | | 60 | | | | | | |
| Pro | Arg | Val | His | Ser | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | | |

<210> 908
 <211> 60
 <212> PRT
 <213> Eucalyptus grandis

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Thr | Phe | Met | Gly | Ile | Cys | Ser | Leu | Gln | His | Ser | Ser | Gln | Gln | Ala | Glu | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | |
| Glu | Ala | Leu | Ser | Gln | Gly | Leu | Glu | Gln | Leu | Gln | Gln | Ser | Leu | Val | Asp | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |
| Thr | Ile | Ala | Gly | Gly | Pro | Ser | Ile | Glu | Gly | Met | Gln | Gln | Met | Ala | Ile | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Ala | Leu | Gly | Lys | Leu | Thr | Asn | Leu | Glu | Gly | Phe | Val | | | | | |
| | 50 | | | | | 55 | | | | 60 | | | | | | |

<210> 909
 <211> 139
 <212> PRT
 <213> Eucalyptus grandis

<400> 909
 Ile Gly Tyr Pro Lys Met Pro Leu Gln Ala Ser Ile Ser Thr Gln Ser
 1 5 10 15
 Asp Phe Gln Ala Asp Gly Ser Gly His Gly Val Pro Ile Pro Gln Gly
 20 25 30
 Ala Asp Ser Gly Ser Leu Gly Ile Ser Ala Leu Pro Thr Ile Gln Arg
 35 40 45
 Asp Ser Gly Val His Val Lys Gln Thr Thr Ser Glu Ser Ser Arg Glu
 50 55 60
 Asp Ser Asp Asp Glu Glu Phe Glu Gly Asp Thr Gly Thr Thr Glu Asn
 65 70 75 80
 Lys Asp Pro Ala Glu Val Arg Arg Ala Arg Arg Met Gln Ser Asn Arg
 85 90 95
 Glu Ser Ala Arg Arg Ser Arg Arg Arg Lys Gln Glu His Met Ser Glu
 100 105 110
 Leu Glu Asn Gln Val Glu His Thr Gly Leu Leu Lys Arg Leu Thr Asp
 115 120 125
 Met Asn Gln Lys Tyr Asp Val Ala Ser Val Asp
 130 135

<210> 910
 <211> 153
 <212> PRT
 <213> Eucalyptus grandis

<400> 910
 Gly Thr Gly Gly Asn Trp Ile Ala Leu Pro Arg Lys Ala Gly Leu Lys
 1 5 10 15
 Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro
 20 25 30
 Asp Ile Lys His Gly Gly Phe Thr Glu Glu Glu Asp His Val Ile Cys
 35 40 45
 Thr Leu Phe Phe Thr Ile Gly Ser Arg Trp Ser Val Ile Ala Ser Lys
 50 55 60
 Leu Pro Gly Arg Thr Asp Asn Asp Val Lys Asn Tyr Trp Asn Thr Lys
 65 70 75 80
 Leu Lys Lys Lys Leu Met Lys Gln Leu Ala Ser Leu Lys Thr Val Pro
 85 90 95
 Glu Ser Asn Phe Asp Tyr Gln Val Cys Ala Gln Asn Ser Ala Ser Ile
 100 105 110
 Asp Pro Glu Thr Lys Asn Arg Glu Tyr Ala Ala Asn Ser Met Gly Phe
 115 120 125
 Pro Lys Gln Asn Phe Asn Pro Gly Ile Pro Thr Ser Asn Ser Ser Leu
 130 135 140
 Leu Cys Pro Pro Ser Leu Thr Glu Val
 145 150

<210> 911
 <211> 118
 <212> PRT
 <213> Eucalyptus grandis

<400> 911
 Thr Ser Cys Ala Asp Asn Cys Arg Leu Ser Leu Ser Leu Ile Gln Ala
 1 5 10 15
 Pro Val Phe Ser Ser Ile Leu Ser Lys Lys Leu Leu Cys Phe Phe Ser

20 25 30
 Leu Ser Leu Ser Thr Met Ala Arg Pro Gln Gln Arg Tyr Arg Gly Val
 35 40 45
 Arg Gln Arg His Trp Gly Ser Trp Val Ser Glu Ile Arg His Pro Leu
 50 55 60
 Leu Lys Thr Arg Ile Trp Leu Gly Thr Phe Glu Thr Ala Glu Asp Ala
 65 70 75 80
 Ala Arg Ala Tyr Asp Glu Ala Ala Arg Leu Met Cys Gly Pro Arg Ala
 85 90 95
 Arg Thr Asn Phe Pro Tyr Asn Pro Asn Met Ser Gln Ser Leu Arg Arg
 100 105 110
 Ser Ser Ser Arg Arg His
 115

<210> 912
 <211> 88
 <212> PRT
 <213> Eucalyptus grandis

<400> 912
 Met Glu Ala Ala Ala Ala Ala Lys Val Val Gly Glu Ala Glu Glu
 1 5 10 15
 Leu Pro Lys Thr Ile Val Arg Arg Val Val Lys Glu Lys Leu Ser Arg
 20 25 30
 Cys Ser Asp Asp Gly Asp Val Ser Leu His Lys Asp Ala Leu Leu Ala
 35 40 45
 Phe Ser Glu Ser Ala Arg Ile Phe Ile His Tyr Leu Ser Ala Thr Ala
 50 55 60
 Asn Asp Ile Cys Lys Glu Ser Lys Arg Gln Thr Ile Asn Ala Asp Asp
 65 70 75 80
 Val Leu Lys Ala Leu Glu Glu Met
 85

<210> 913
 <211> 84
 <212> PRT
 <213> Eucalyptus grandis

<400> 913
 Pro Val His Glu Gln Gly Gln Leu Arg Gly Val Asp Arg Leu Glu Gly
 1 5 10 15
 Ser His Trp Val Pro Ile Gly Trp Glu Arg Ile Ser Ala Leu Ala Gln
 20 25 30
 Thr Val Gln Val Asp Ala Gly Trp Gly Met Gln Leu Asp Ser Met Asp
 35 40 45
 Asp Asp Glu Asp Leu Thr Val Ala Asp Met Glu Thr Pro Tyr Trp Glu
 50 55 60
 Arg Pro Ala Gly Pro Ile Trp Trp Cys His Phe Ser Ala Gly His Pro
 65 70 75 80
 Ala Val Glu Ala

<210> 914
 <211> 184
 <212> PRT
 <213> Eucalyptus grandis

<400> 914
 Met Lys Pro Thr Ile Asp Leu Glu Val Glu Ala Val Ser Glu Asn Asp
 1 5 10 15
 Ser Glu Ile Ser Ser Gln Val Ala Ser Asn Leu Ser Asn Gln Glu Pro
 20 25 30
 Ser Met Gly Pro Ser Asn Asp Ser Leu Ala Asn Ser Ser Tyr Leu Ile
 35 40 45
 Ser Pro Ser Ala Val Gly Ser Gly Ser Glu Thr Val Phe Leu Asp Leu
 50 55 60
 Ser Leu Gly Cys Ser Asn Asp Glu Ser Ser Gly Arg Asp Ser Val Gly
 65 70 75 80
 Val Ala Phe Ser Ser Thr Ser Glu Cys Ser Asn Glu Pro Glu Ser His
 85 90 95
 Pro Ala Ala Ala Gly Pro Thr Thr Ser Arg Val Phe Ser Cys Asn Tyr
 100 105 110
 Cys Gln Arg Lys Phe Phe Ser Ser Gln Ala Leu Gly Gly His Gln Asn
 115 120 125
 Ala His Lys Arg Glu Arg Thr Leu Ala Lys Arg Ala Met Arg Met Gly
 130 135 140
 Met Phe Ser Ser Gln Arg Tyr Ser Ser Leu Ala Ser Leu Pro Leu His
 145 150 155 160
 Gly Ser Pro Thr Val Arg Asp Leu Gly Ile Lys Ala His Ser Ser Val
 165 170 175
 His Gln Val His Gln Gly Met Leu
 180

<210> 915
 <211> 96
 <212> PRT
 <213> Eucalyptus grandis

<400> 915
 Met Trp Asn Pro Ser Ala Ala Gln Glu Asp Asp Asp Ser Trp Glu Val
 1 5 10 15
 Arg Ala Phe Ala Glu Asp Thr Ser Asn Ile Met Gly Ala Thr Trp Pro
 20 25 30
 Pro Arg Ser Tyr Thr Cys Ser Phe Cys Arg Arg Glu Phe Arg Ser Ala
 35 40 45
 Gln Ala Leu Gly Gly His Met Asn Val His Arg Arg Asp Arg Ala Lys
 50 55 60
 Leu His Gln Ser Gln Phe Arg Pro Leu Ala Asn Gln Asn Ser Pro Phe
 65 70 75 80
 Ala Ser Cys Ser Ser Pro Ser Ser Ser Thr Leu Leu Phe Pro Asn Gln
 85 90 95

<210> 916
 <211> 176
 <212> PRT
 <213> Eucalyptus grandis

<400> 916
 Met Ala Glu Leu Asp Tyr Cys Gln Thr Lys Ser Ser Pro Gly Ala Ala
 1 5 10 15
 Ala Thr Arg Leu Lys Leu Phe Gly Phe Asn Val Ser Asp Glu Glu Asp
 20 25 30
 Ser Ala Val Ser Asp Pro Ile Thr Val Gly Ala Asn Gly Gly Gly Gly
 35 40 45

Gly Gly Gly Gly Lys Ala Thr Pro Ser Gly Ser Pro Glu Gly Ser Val
 50 55 60
 Pro Val Gly Gly Gly Gly Glu Arg Lys Tyr Glu Cys Gln Tyr Cys Cys
 65 70 75 80
 Arg Glu Phe Ala Asn Ser Gln Ala Leu Gly Gly His Gln Asn Ala His
 85 90 95
 Lys Lys Glu Arg Gln Gln Leu Lys Arg Ala Gln Leu His Ala Ser Arg
 100 105 110
 Asn Ala Ala Val Ser Ser Leu Val Arg Asn Pro Ile Ile Ser Ala Phe
 115 120 125
 Ala Thr Pro Pro His Leu Leu Ala Thr Val Gly Pro Val Val Val Thr
 130 135 140
 Gly Ala Ala Pro Thr Ser Pro Ser Trp Val Tyr Val Pro Arg Gly Ala
 145 150 155 160
 Pro Pro Phe Gln Val Ser His Gly Cys Val Phe Thr Thr Gly Gln Gly
 165 170 175

<210> 917
 <211> 138
 <212> PRT
 <213> Eucalyptus grandis

<400> 917
 Glu His Gln Ser Asn Pro Trp His Gln Ser Ser Ser Ala Ala Asn His
 1 5 10 15
 Arg Gln Leu Asn Leu Glu Leu Ala Leu Glu Pro Cys Ser Pro Ser Ser
 20 25 30
 Ser Ser Ser Pro Ala Ser Leu His Pro Leu Ala Val Pro Ala Lys Asp
 35 40 45
 Asn Lys Leu Tyr Ser Cys Asn Phe Cys Gln Lys Lys Phe Tyr Ser Ser
 50 55 60
 Gln Ala Leu Gly Gly His Gln Asn Ala His Lys Leu Glu Arg Thr Leu
 65 70 75 80
 Ala Lys Lys Ser Arg Asp Leu Cys Ser Ala Ala Lys Pro Pro Ala Ala
 85 90 95
 Thr Ser Asn Gly His His Val Arg Pro Ser Phe Gln Ser Val Val Tyr
 100 105 110
 Glu Asn Gln Pro Arg Leu Ala Arg His Val Gly Asp Asp Met Arg Tyr
 115 120 125
 Ala Gly Thr Asn Pro Leu Tyr Gly Ser Ser
 130 135

<210> 918
 <211> 68
 <212> PRT
 <213> Eucalyptus grandis

<400> 918
 Gln Leu Ser Ser Val Asp Arg Glu Ala Arg Val Leu Arg Tyr Arg Glu
 1 5 10 15
 Lys Arg Lys Asn Arg Lys Phe Glu Lys Thr Ile Arg Tyr Ala Ser Arg
 20 25 30
 Lys Ala Tyr Ala Glu Thr Arg Pro Arg Ile Lys Gly Arg Phe Ala Lys
 35 40 45
 Arg Ala Asp Ile Glu Ala Glu Ala Glu Arg Met Phe Gly Phe Gly Val
 50 55 60
 Val Pro Ser Phe

<210> 919
 <211> 224
 <212> PRT
 <213> Eucalyptus grandis

<400> 919

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gly | Pro | Trp | Thr | Val | Glu | Glu | Asp | Leu | Thr | Leu | Val | Asn | Tyr | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Asn | His | Gly | Glu | Gly | Arg | Trp | Asn | Ser | Leu | Ala | Arg | Ser | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Lys | Arg | Thr | Gly | Lys | Ser | Cys | Arg | Leu | Arg | Trp | Leu | Asn | Tyr | Leu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Arg | Pro | Asp | Val | Arg | Arg | Gly | Asn | Ile | Thr | Leu | Glu | Glu | Gln | Leu | Leu |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Ile | Leu | Glu | Leu | His | Ser | Arg | Trp | Gly | Asn | Arg | Trp | Ser | Lys | Ile | Ala |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Gln | His | Leu | Pro | Gly | Arg | Thr | Asp | Asn | Glu | Ile | Lys | Asn | Tyr | Trp | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Thr | Arg | Val | Gln | Lys | His | Ala | Lys | Gln | Leu | Lys | Cys | Asp | Val | Asn | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Gln | Phe | Lys | Asp | Ala | Met | Lys | Tyr | Leu | Trp | Met | Pro | Arg | Leu | Val |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Glu | Arg | Ile | Gln | Ala | Ala | Ser | Ala | Ser | Val | Ser | Thr | Ala | Thr | Val | Ala |
| | | | 130 | | | | 135 | | | | 140 | | | | |
| Ala | Ala | Ala | Met | Ala | Ala | Pro | Pro | Thr | Met | Ala | Thr | Thr | Ala | Ala | Ser |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 |
| Asn | Ile | Gly | Gly | Met | Ala | Phe | Pro | Pro | Ala | Leu | Ala | Gly | Met | Gly | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Asp | Phe | Arg | Gly | Gly | Arg | Val | Asn | Val | Ala | Pro | Ser | Tyr | Ser | Thr | Pro |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Glu | Asn | Ser | Cys | Thr | Thr | Ala | Ser | Ser | Asp | Ser | Phe | Gly | Ala | Gln | Val |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Ser | Pro | Val | Ser | Asp | Leu | Thr | Asp | Leu | Asp | Arg | Val | Leu | Thr | Leu | Ser |
| | | | 210 | | | 215 | | | | | 220 | | | | |

<210> 920
 <211> 286
 <212> PRT
 <213> Eucalyptus grandis

<400> 920

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Leu | Trp | Ala | Asp | Tyr | Asp | His | Ala | Ala | Ala | Thr | Asp | Leu | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Phe | Trp | Pro | Pro | Pro | Ala | Thr | Pro | Pro | Pro | Pro | Ala | Pro | Ala | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Leu | Ser | Gln | Glu | Ser | Leu | Gln | Arg | Arg | Leu | Gln | Ala | Leu | Ile | Glu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Gly | Ala | Arg | Gly | Arg | Asp | Gly | Glu | Glu | Gly | Ala | Gly | Gly | Pro | Ala | Ala |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Ala | Trp | Thr | Tyr | Thr | Ile | Phe | Trp | Gln | Ser | Ser | Gly | Asp | Tyr | Ser | Gly |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Pro | Val | Leu | Gly | Trp | Gly | Asp | Gly | Tyr | Tyr | Lys | Gly | Asp | Gly | Arg | Ala |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Arg | Ser | Arg | Gly | Ser | Ala | Cys | Ser | Gln | Ala | Glu | Gln | Glu | His | Arg | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |

Lys Val Leu Arg Glu Leu Asn Ser Leu Ile Ser Gly Ala Pro Pro Ala
 115 120 125
 Asp Asp Ala Val Glu Glu Glu Val Thr Asp Thr Glu Trp Phe Phe Leu
 130 135 140
 Val Ser Met Thr Gln Ser Phe Ala Gly Gly Val Gly Leu Pro Gly Arg
 145 150 155 160
 Ala Tyr Phe Ser Ser Asn Pro Ala Trp Val Thr Gly Ala Glu Arg Leu
 165 170 175
 Gly Asn Cys Gly Cys Asp Arg Ala Arg Gln Ala Gln Ile Phe Gly Leu
 180 185 190
 Gln Thr Ile Ala Cys Val Pro Val Leu Asn Gly Val Val Glu Leu Gly
 195 200 205
 Ser Thr Glu Pro Ile Tyr Gln Ser Ser Asp Leu Ile Ser Gly Ile Arg
 210 215 220
 Gly Leu Phe Asn Phe His Glu Ser Glu Met Gly Cys Gly Gly Arg Val
 225 230 235 240
 Leu Asn Ser Glu His Asp Pro Ala Ser Leu Trp Ile Cys Asp Pro Pro
 245 250 255
 Val Thr Met Glu Ile Asn Asp Arg Pro Met Thr Phe Gln Ile Glu Asn
 260 265 270
 Pro Ser Ser Ser Ser Leu Thr Glu Ser Pro Ser Ala Ile Cys
 275 280 285

<210> 921
 <211> 101
 <212> PRT
 <213> Eucalyptus grandis

<400> 921
 Met Val Pro Pro Phe Pro Thr Ala Glu Leu Pro Leu Asn Glu Asn Asp
 1 5 10 15
 Ser Gln Asp Met Val Ile Tyr His Val Leu Asn Glu Ala Met Ser Gln
 20 25 30
 Asn Asn Ser Ser Leu Pro His Pro Asn Gln Ser Gly Ser Pro Ser Ser
 35 40 45
 Gly Gly Ser Leu Glu Pro Ser Arg Gly Ile Thr Lys Lys His Tyr Arg
 50 55 60
 Gly Val Arg Arg Arg Pro Trp Gly Lys Phe Ala Val Arg Phe Ala Thr
 65 70 75 80
 Arg Tyr Ala Thr Gly Pro Glu Phe Gly Ser Gly His Ser Arg Gln Pro
 85 90 95
 Arg Arg Arg Arg Trp
 100

<210> 922
 <211> 139
 <212> PRT
 <213> Eucalyptus grandis

<400> 922
 Ile Gly Tyr Pro Lys Met Pro Leu Gln Ala Ser Ile Ser Thr Gln Ser
 1 5 10 15
 Asp Phe Gln Ala Asp Gly Ser Gly His Gly Val Pro Ile Pro Gln Gly
 20 25 30
 Ala Asp Ser Gly Ser Leu Gly Ile Ser Ala Leu Pro Thr Ile Gln Arg
 35 40 45
 Asp Ser Gly Val His Val Lys Gln Thr Thr Ser Glu Ser Ser Arg Glu

| | | | | |
|---|--|-----|--|-----|
| 50 | | 55 | | 60 |
| Asp Ser Asp Asp Glu Glu Phe Glu Gly Asp Thr Gly Thr Thr Glu Asn | | | | |
| 65 | | 70 | | 75 |
| Lys Asp Pro Ala Glu Val Arg Arg Ala Arg Arg Met Gln Ser Asn Arg | | | | |
| | | 85 | | 90 |
| Glu Ser Ala Arg Arg Ser Arg Arg Arg Lys Gln Glu His Met Ser Glu | | | | |
| | | 100 | | 105 |
| Leu Glu Asn Gln Val Glu His Thr Gly Leu Leu Lys Arg Leu Thr Asp | | | | |
| | | 115 | | 120 |
| Met Asn Gln Lys Tyr Asp Val Ala Ser Val Asp | | | | 125 |
| 130 | | 135 | | |

<210> 923
 <211> 222
 <212> PRT
 <213> Pinus radiata

| |
|---|
| <400> 923 |
| Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val |
| 1 5 10 15 |
| Val Leu Ala Glu Tyr Thr Glu Phe Lys Gly Asn Phe Thr Gly Ile Ala |
| 20 25 30 |
| Ala Gln Cys Leu Gln Lys Leu Pro Ala Ser Asn Asn Lys Phe Thr Tyr |
| 35 40 45 |
| Asn Cys Asp Asn His Thr Phe Asn Tyr Leu Val Glu Asp Gly Phe Ala |
| 50 55 60 |
| Tyr Cys Val Val Ala Asp Glu Ser Val Gly Arg Gln Val Pro Met Ala |
| 65 70 75 80 |
| Phe Leu Glu Arg Val Lys Glu Asp Phe Lys Arg Arg Tyr Gly Gly Gly |
| 85 90 95 |
| Arg Ala Asp Thr Ala Val Ala Asn Ser Leu Asn Arg Asp Phe Gly Ser |
| 100 105 110 |
| Lys Leu Lys Glu His Met Gln Tyr Cys Ile Asp His Pro Glu Glu Ile |
| 115 120 125 |
| Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser Glu Val Lys Gly Val |
| 130 135 140 |
| Met Met Asp Asn Ile Glu Lys Val Leu Asp Arg Gly Glu Lys Ile Glu |
| 145 150 155 160 |
| Leu Leu Val Asp Lys Thr Glu Asn Leu Arg Phe Gln Ala Gln Asp Phe |
| 165 170 175 |
| Gln Lys Lys Gly Thr Glu Leu Arg Arg Lys Met Trp Phe Gln Asn Met |
| 180 185 190 |
| Lys Val Lys Leu Ile Val Leu Gly Ile Val Val Ala Leu Ile Leu Ile |
| 195 200 205 |
| Ile Val Leu Ser Val Cys His Gly Phe Asn Cys Ser Lys Lys |
| 210 215 220 |

<210> 924
 <211> 105
 <212> PRT
 <213> Pinus radiata

| |
|---|
| <400> 924 |
| Met Gly Arg Gly Lys Ile Glu Ile Lys Met Ile Glu Asn Thr Ala Asn |
| 1 5 10 15 |
| Arg Gln Val Thr Phe Ser Lys Arg Lys Gly Gly Leu Leu Lys Lys Ala |
| 20 25 30 |

His Glu Leu Ser Val Leu Cys Asn Ala Glu Ile Ala Leu Ile Val Phe
 35 40 45
 Ser Asn Thr Gly Lys Leu His Asp Trp Ser Ser Ser Ser Met Lys Lys
 50 55 60
 Val Met Glu Lys Tyr Gln Lys Ser Asp Gln Gly Leu Gly Leu Met Asp
 65 70 75 80
 Tyr Gln Gln Gln Gln Leu Leu Cys Glu Met Lys Arg Ile Thr Lys Glu
 85 90 95
 Asn Glu Ser Leu Arg Ala Arg Leu Arg
 100 105

<210> 925
 <211> 102
 <212> PRT
 <213> Pinus radiata

<400> 925
 Val Pro Ser Pro Leu Val Pro Thr Arg Glu Asn Tyr Phe Val Arg Tyr
 1 5 10 15
 Cys Lys Gln His Ser Asp Gly Ile Trp Ala Val Val Asp Val Ser Leu
 20 25 30
 Asp Thr Leu Arg Gly Asn Pro Gln Pro His Pro Asn Cys Pro Pro Ser
 35 40 45
 Thr Leu Arg Cys Arg Arg Arg Pro Ser Gly Cys Leu Ile Gln Glu Met
 50 55 60
 Pro Asn Gly Tyr Ser Lys Val Thr Trp Val Glu His Val Glu Val Asp
 65 70 75 80
 Glu Arg Ala Val His Arg Ile Tyr Asp Lys Leu Val Ser Thr Val Ser
 85 90 95
 Arg Arg Thr Pro Tyr Arg
 100

<210> 926
 <211> 176
 <212> PRT
 <213> Pinus radiata

<400> 926
 Leu Ser Asn Ile Glu Pro Lys Gln Ile Lys Val Trp Phe Gln Asn Arg
 1 5 10 15
 Arg Cys Arg Glu Lys Gln Arg Lys Glu Ala Ser Arg Leu Gln Thr Val
 20 25 30
 Asn Arg Lys Leu Thr Ala Met Asn Lys Leu Leu Met Glu Glu Asn Asp
 35 40 45
 Arg Leu Gln Lys Gln Val Ser Gln Leu Val Tyr Glu Asn Gly Tyr Met
 50 55 60
 Arg Gln Gln Leu Gln Asn Ala Ser Val Ala Ala Thr Asp Thr Ser Cys
 65 70 75 80
 Glu Ser Val Val Thr Ser Gly Gln His Gln His Asn Pro Thr Pro Gln
 85 90 95
 His Pro Pro Arg Asp Ala Ser Pro Ala Gly Leu Leu Ser Ile Ala Glu
 100 105 110
 Glu Thr Leu Thr Glu Phe Leu Ser Lys Ala Lys Gly Ala Ala Val Asp
 115 120 125
 Trp Val Gln Met Pro Gly Met Lys Pro Gly Pro Asp Ser Ile Gly Ile
 130 135 140
 Val Ala Ile Ser Asn Thr Cys Asn Gly Val Ala Ala Arg Ala Cys Gly

145 150 155 160
 Leu Val Gly Leu Asp Pro Thr Lys Val Ala Glu Ile Leu Lys Asp Arg
 165 170 175

<210> 927
 <211> 68
 <212> PRT
 <213> Pinus radiata

<400> 927
 Ile Leu Pro Glu Gly Pro Pro Glu Ser Arg Ser Val Ile Asp Asn Arg
 1 5 10 15
 Gln Val Glu Gly Ser Ile Leu Thr Ile Ala Phe Gln Ile Leu Val Asn
 20 25 30
 Asp Leu Pro Ser Ala Lys Leu Thr Leu Glu Ser Val Glu Thr Val Asn
 35 40 45
 Asn Leu Ile Ser Cys Thr Ala Gln Arg Ile Lys Ala Ala Leu His Lys
 50 55 60
 Val Glu Asp Val
 65

<210> 928
 <211> 68
 <212> PRT
 <213> Pinus radiata

<400> 928
 Met Gly Arg Ala Leu Gly Arg Thr Glu Ile Lys Arg Ile Glu Asn Glu
 1 5 10 15
 Val Ser Arg Asn Val Ser Phe Arg Lys Arg Arg Arg Gly Leu Leu Lys
 20 25 30
 Lys Ala Ala Glu Leu Ser Ile Leu Cys Asp Ala Thr Val Gly Val Val
 35 40 45
 Val Phe Ser Pro Ala Gly Lys Leu Ser Glu Tyr Ala Ser Thr Ser Glu
 50 55 60
 Ser Asn Gly Tyr
 65

<210> 929
 <211> 126
 <212> PRT
 <213> Pinus radiata

<400> 929
 Ile Arg Asn Pro Thr Asn Arg His Ser Ser Phe Tyr Lys Arg Lys Gly
 1 5 10 15
 Gly Leu Leu Lys Lys Ala Phe Glu Leu Ala Val Leu Cys Asp Ala Glu
 20 25 30
 Val Ala Leu Ile Ile Phe Ser Glu Thr Gly Arg Ile Tyr Glu Phe Ala
 35 40 45
 Ser His Asp Asp Val Thr Thr Val Leu Ala Lys Tyr Arg Ile Gln Thr
 50 55 60
 Lys Thr Ala Gly Asn Ala Met Pro Ser Ser Leu Gln Lys Thr Glu Phe
 65 70 75 80
 Asp Gln Leu Gln Val Arg Met Leu Gln Glu Lys Ile Asp Asn Leu Glu
 85 90 95
 Lys Thr Lys Lys His Met Val Gly Glu Asn Leu Glu Ser Leu Thr Trp

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Asn | Gln | Cys | Leu | Gln | Lys | Ile | Pro | Ala | Ser | Asn | Asn | Lys | Phe | Thr | Tyr | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Asn | Cys | Asp | Arg | His | Thr | Phe | Asn | Tyr | Leu | Val | Glu | Asp | Gly | Tyr | Thr | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Tyr | Cys | Val | Val | Ala | Asp | Glu | Ser | Val | Gly | Arg | Gln | Leu | Pro | Ile | Ala | |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 | |
| Phe | Leu | Glu | Arg | Ile | Lys | Asp | Asp | Phe | Lys | Lys | Arg | Tyr | Gly | Gly | Gly | |
| | | | 85 | | | | | 90 | | | | | 95 | | | |
| Lys | Ala | Asp | Thr | Ala | Val | Ala | His | Ser | Leu | Asn | Lys | Asp | Phe | Gly | Pro | |
| | | 100 | | | | | 105 | | | | | 110 | | | | |
| Lys | Leu | Lys | Asp | His | Met | Gln | Tyr | Cys | Val | Asp | His | Pro | Glu | Glu | Ile | |
| | 115 | | | | | 120 | | | | | 125 | | | | | |
| Asn | Lys | Leu | Ala | Lys | Val | Lys | Ala | Gln | Val | Ser | Glu | Val | Lys | Gly | Val | |
| | 130 | | | | 135 | | | | | | 140 | | | | | |
| Met | Met | Glu | Asn | Ile | Glu | Lys | Val | Leu | Asp | Arg | Gly | Glu | Lys | Ile | Glu | |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 | |
| Leu | | | | | | | | | | | | | | | | |

<210> 933
 <211> 54
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Phe | Pro | Thr | Gly | Asn | Gly | Gly | Thr | Ile | Glu | Leu | Leu | Tyr | Met | His | Thr | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | |
| Tyr | Ala | Ala | Thr | Thr | Leu | Ala | Ser | Ala | Arg | Asp | Phe | Trp | Thr | Leu | Arg | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |
| Tyr | Thr | Thr | Val | Leu | Glu | Tyr | Gly | Ser | Leu | Val | Val | Cys | Glu | Arg | Ser | |
| | | 35 | | | | 40 | | | | | | 45 | | | | |
| Leu | Ser | Gly | Thr | Gln | Gly | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | |

<210> 934
 <211> 123
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Arg | Arg | Glu | Ala | Cys | Cys | Pro | Gln | Pro | Ser | Leu | Met | Ala | Arg | Ala | Pro | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | |
| His | His | His | Gln | Gln | Gln | Gln | His | His | Gln | His | His | Gln | Gln | Glu | Ala | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |
| Ser | Arg | Met | Val | Thr | Ser | Leu | Glu | Val | Asp | Ile | Asp | Thr | Ala | Cys | Ser | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Ser | Lys | Pro | Asn | Asp | Ser | Ile | Asp | Ala | Leu | Lys | Ser | Lys | Ile | Ala | Cys | |
| | 50 | | | | 55 | | | | | 60 | | | | | | |
| His | Pro | His | Tyr | Pro | Gln | Leu | Leu | Ala | Ala | Tyr | Met | Asp | Cys | Gln | Lys | |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | | |
| Val | Gly | Ala | Pro | Pro | Glu | Val | Val | Thr | Val | Leu | Asp | Glu | Ile | Ile | Gln | |
| | | | 85 | | | | 90 | | | | | | 95 | | | |
| Glu | Asn | Gln | Leu | Gly | Arg | His | Ser | Gly | Thr | Met | Asp | Ile | Gly | Val | Asp | |
| | | 100 | | | | 105 | | | | | | 110 | | | | |
| Pro | Glu | Leu | Asp | Gln | Phe | Met | Glu | Ala | Tyr | Cys | | | | | | |
| | 115 | | | | | 120 | | | | | | | | | | |

<210> 935
 <211> 113
 <212> PRT
 <213> Pinus radiata

<400> 935
 Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Asp Asp Val Thr Ser
 1 5 10 15
 Arg Gln Val Thr Phe Ser Lys Arg Lys Met Gly Ile Phe Lys Lys Ala
 20 25 30
 His Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Leu Ile Phe
 35 40 45
 Ser Asn Thr Gly Arg Leu Tyr Asp Tyr Ala Ser Ser Arg Cys Met Glu
 50 55 60
 Arg Thr Ile Glu Arg Tyr Glu Lys Cys Thr Lys Ala Ile Asn Cys Pro
 65 70 75 80
 Thr Ser Asp Pro Ile Val Glu Asn Lys Ser Pro Ile Gln Glu Gly Ile
 85 90 95
 Glu Ile Leu Arg Gln Lys Leu Arg Ala Leu Gln Arg Leu Gln Arg Asn
 100 105 110
 Leu

<210> 936
 <211> 162
 <212> PRT
 <213> Pinus radiata

<400> 936
 Val Gln Glu Val Ala His Ile Ala Asn Gly Ser His Pro Gly Asn Cys
 1 5 10 15
 Ile Ser Leu Leu Arg Val Asn Ala Cys Ser Thr Ser Gln Asn Val Glu
 20 25 30
 Leu Ile Leu Gln Glu Ser Cys Thr Asp Ala Ser Gly Ser Val Ile Val
 35 40 45
 Tyr Ala Pro Val Asp Val Pro Ala Ile Asn Ile Ala Met Ser Gly Glu
 50 55 60
 Asp Pro Ser Tyr Ile Ala Leu Leu Pro Ser Gly Phe Ala Ile Leu Pro
 65 70 75 80
 Asp Gly Gln Asn Arg Ser Ser Thr Ser Ser Leu Leu Glu Gly Ala Asn
 85 90 95
 Ser Ser Ser Asn Ser Ser Asn Ser Ser Gly Leu Asp Ser Pro Leu Thr
 100 105 110
 Arg Gly Gly Ser Leu Leu Thr Val Ala Phe Gln Val Leu Val Ser His
 115 120 125
 Leu Pro Thr Ala Lys Leu Gly Leu Asp Ser Val Thr Thr Ile Asn Asn
 130 135 140
 Leu Ile Cys Asn Thr Val Gln Gln Ile Lys Ser Ala Leu His Cys Ala
 145 150 155 160
 Asp Val

<210> 937
 <211> 114
 <212> PRT
 <213> Pinus radiata

<400> 937

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Arg | Arg | Ala | Arg | Thr | Lys | Trp | Lys | Arg | Asn | Glu | Val | Glu | Cys | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Leu | Lys | Arg | Cys | Cys | Glu | Ser | Leu | Arg | Glu | Glu | Asn | Arg | Arg | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Lys | Glu | Val | Gln | Ser | Leu | Arg | Ala | Met | Lys | Val | Pro | Gln | Ser | Pro |
| | | | 35 | | | | | 40 | | | | | 45 | | |
| Asn | Ser | Met | Pro | Leu | Ala | Ala | Ala | Thr | Leu | Ala | Met | Cys | Pro | Ala | Cys |
| | | | 50 | | | | | 55 | | | | 60 | | | |
| Glu | Gly | Leu | Ala | Ile | Lys | Asn | Arg | Gly | Ala | Ala | Thr | Ser | Ser | Thr | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Lys | Ser | Gln | Gln | Ser | Leu | Leu | Thr | Ile | Met | Gly | Ile | Gly | Asp | Val | Asn |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Met | Ile | Ser | Lys | Asn | Asn | Gln | Thr | Pro | Ser | Met | Gly | Met | Gly | Asp | Glu |
| | | | 100 | | | | | 105 | | | | | | 110 | |

Met Asn

<210> 938

<211> 120

<212> PRT

<213> Pinus radiata

<400> 938

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Lys | Thr | Leu | Glu | Arg | Tyr | Gln | Lys | Cys | Ser | Tyr | Val | Leu | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Ala | Thr | Val | Ser | Asp | Arg | Glu | Ala | Gln | Asn | Trp | His | Gln | Glu | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Lys | Leu | Lys | Ala | Lys | Val | Glu | Leu | Leu | Gln | Arg | Ser | Gln | Arg | His |
| | | | 35 | | | | | 40 | | | | | 45 | | |
| Leu | Leu | Gly | Glu | Asp | Leu | Gly | Pro | Leu | Ser | Ile | Lys | Glu | Leu | Gln | Gln |
| | | | 50 | | | | | 55 | | | | 60 | | | |
| Leu | Glu | Arg | Gln | Leu | Glu | Val | Ala | Leu | Thr | His | Val | Arg | Ser | Arg | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Thr | Gln | Val | Met | Leu | Glu | Met | Met | Asp | Glu | Leu | Arg | Arg | Lys | Glu | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ile | Leu | Gln | Glu | Val | Asn | Lys | Ser | Leu | Arg | Lys | Lys | Leu | Gln | Glu | Ala |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Glu | Gly | Gln | Ala | Phe | Asn | Ala | Met | | | | | | | | |
| | | | 115 | | | | 120 | | | | | | | | |

<210> 939

<211> 110

<212> PRT

<213> Pinus radiata

<400> 939

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asp | Thr | Ala | Asn | Ser | Ser | Glu | Leu | Leu | Gly | Ser | Ser | Arg | Ser | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Asp | His | Pro | His | His | Gly | His | His | Asp | Gln | Gln | Gln | Gln | Gln | Gln |
| | | | 20 | | | | | | 25 | | | | 30 | | |
| Glu | Asn | His | Met | Val | Trp | Gln | Asn | Ser | Arg | Leu | Lys | Ala | Asp | Val | Leu |
| | | | 35 | | | | | | 40 | | | | 45 | | |
| Gln | His | Pro | Leu | Tyr | Asp | Gln | Leu | Leu | Ala | Ala | His | Val | Ala | Cys | Leu |
| | | | 50 | | | | | | 55 | | | 60 | | | |
| Arg | Ile | Ala | Thr | Pro | Val | Asp | Gln | Leu | Pro | Lys | Ile | Asp | Ala | Gln | Leu |

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Pro | Arg | Gly | Lys | Val | Tyr | Glu | Phe | Ser | Ser | Thr | Cys | Met | Gln | Lys | Met | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Leu | Ala | Arg | Tyr | Glu | Lys | Cys | Ser | Glu | Gly | Ser | Asp | Thr | Ser | Thr | Ser | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Lys | Glu | Gln | Asp | Val | Gln | Cys | Leu | Lys | Arg | Glu | Ser | Ala | Asn | Met | Glu | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Glu | Arg | Ile | Glu | Ile | Leu | Glu | Ser | Met | Gln | Arg | Lys | Met | Leu | Gly | Glu | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |
| Glu | Leu | Ala | Ser | Cys | Ala | Leu | Lys | Asp | Leu | Asn | Gln | Leu | Glu | Ser | Gln | | |
| | 115 | | | | | | 120 | | | | | 125 | | | | | |
| Val | Glu | Arg | Gly | Leu | Arg | | | | | | | | | | | | |
| | 130 | | | | | | | | | | | | | | | | |

<210> 946
 <211> 110
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Ser | Leu | Val | Trp | Gly | Ala | Leu | Lys | Met | Gly | Lys | Thr | Lys | Met | Glu | Ile | | |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | | | |
| Lys | Arg | Ile | Gln | Asn | Pro | Ser | Arg | Arg | Gln | Val | Thr | Phe | Ser | Lys | Arg | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Lys | Asn | Gly | Leu | Leu | Lys | Lys | Ala | Phe | Glu | Leu | Ser | Val | Leu | Cys | Asp | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Ala | Glu | Val | Ala | Leu | Ile | Ile | Phe | Ser | Glu | Thr | Gly | Lys | Ile | Cys | Glu | | |
| | 50 | | | | 55 | | | | | | 60 | | | | | | |
| Phe | Ala | Ser | His | Asp | Asp | Met | Ala | Thr | Ile | Leu | Glu | Lys | Tyr | Arg | Ile | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Tyr | Thr | Glu | Thr | His | Gly | Asn | Met | Glu | Ser | Ser | Ser | Val | Gln | Ser | Val | | |
| | | | 85 | | | | 90 | | | | | | 95 | | | | |
| Lys | Ile | Gly | Glu | Ser | Gln | Leu | Lys | Ala | Leu | Arg | Glu | Lys | Met | | | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |

<210> 947
 <211> 92
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Lys | Leu | Pro | Lys | Glu | Ala | Arg | Gln | Lys | Leu | Leu | Asp | Trp | Trp | Thr | Arg | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Asn | Tyr | Lys | Trp | Pro | Tyr | Pro | Ser | Glu | Ser | Gln | Lys | Ile | Ala | Leu | Ala | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Glu | Ser | Thr | Gly | Leu | Asp | Gln | Lys | Gln | Ile | Asn | Asn | Trp | Phe | Ile | Asn | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Gln | Arg | Lys | Arg | His | Trp | Lys | Pro | Ser | Glu | Glu | Met | Gln | Phe | Val | Val | | |
| | 50 | | | | 55 | | | | | | 60 | | | | | | |
| Met | Asp | Ser | Pro | Asn | Pro | His | Asn | Ala | Ala | Phe | Phe | Leu | Glu | Gly | His | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Leu | Arg | Thr | Asp | Gly | Thr | Ala | Phe | Ser | Met | Asp | Cys | | | | | | |
| | | | 85 | | | | | | 90 | | | | | | | | |

<210> 948
 <211> 155
 <212> PRT

<213> Pinus radiata

<400> 948

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ser | Cys | Val | Ser | Lys | Ala | Ala | Met | Ile | Leu | Ala | Glu | His | Ser | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Asp | Ala | Glu | Leu | Glu | Glu | Val | Ala | Gly | Glu | Cys | Leu | Glu | Arg | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Pro | Leu | His | Ser | Arg | Phe | Thr | His | Thr | Thr | Lys | Arg | Lys | Met | Tyr |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Phe | Leu | Met | Asp | Gly | Pro | Phe | Val | Tyr | Cys | Ala | Ile | Val | Asp | Glu |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Ala | Leu | Gly | Lys | Pro | Gln | Val | Phe | Val | Phe | Leu | Glu | His | Val | Arg | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Phe | Lys | Lys | Leu | Leu | Lys | Asn | Arg | Gly | Cys | Glu | Gly | Leu | Ser | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Cys | Cys | Phe | Asp | Lys | Glu | Phe | Gly | Pro | Val | Tyr | Lys | Arg | Leu | Val | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Leu | Val | Gly | Val | Pro | Gln | Ile | Glu | Lys | Asp | Arg | Leu | Met | Glu | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Ser | Lys | Ser | Gln | Pro | Ala | Lys | Thr | His | Pro | Val | Gln | Val | Asn | Asn |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ser | Pro | Lys | Asp | Ser | Leu | Pro | Val | Tyr | Asp | Asn | | | | | |
| 145 | | | | | 150 | | | | | 155 | | | | | |

<210> 949

<211> 165

<212> PRT

<213> Pinus radiata

<400> 949

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Gly | Ser | Leu | Val | Ile | Cys | Glu | Arg | Ser | Leu | Ser | Ala | Ala | Gln | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Met | Pro | Met | Val | Ser | Gln | Ser | Gln | Ser | Phe | Val | His | Gly | Glu | Leu | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ser | Gly | Tyr | Leu | Ile | Arg | Pro | Cys | Glu | Gly | Arg | Gly | Ala | Leu | Val |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ile | Met | Val | Asp | His | Arg | Asn | Leu | Glu | Ala | Ser | Ser | Val | Pro | Glu | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Arg | Pro | Leu | Tyr | Glu | Ser | Ser | Thr | Phe | Phe | Ala | Gln | Lys | Met | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Val | Glu | Ala | Ser | Tyr | His | Leu | Gln | Gly | Lys | Val | Gln | Pro | Glu | Met | Ile |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Leu | Ser | Lys | Lys | Leu | Gln | Gln | Pro | Cys | Asn | Val | Arg | Ser | Tyr | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gln | Arg | Leu | Cys | Arg | Gly | Phe | Asn | Glu | Ala | Val | Asn | Thr | Leu | Pro | Asp |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asp | Gly | Trp | Met | Ser | Leu | Ser | Lys | Asp | Gly | Leu | Gly | Asp | Val | Thr | Ile |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Cys | Glu | Ser | Phe | Val | Lys | Leu | Pro | Glu | Pro | Asn | Ala | Ser | Gln | Ile | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Tyr | Val | Asn | Ser | Met | | | | | | | | | | | |
| | | | | 165 | | | | | | | | | | | |

<210> 950

<211> 153

<212> PRT

<213> Pinus radiata

<400> 950
 Arg Ala Leu Gln Gln Leu Gly Met Ile Gln Gln His Ala Trp Arg Pro
 1 5 10 15
 Gln Arg Gly Leu Pro Glu Arg Ser Val Ser Val Leu Arg Ala Trp Leu
 20 25 30
 Phe Glu His Phe Leu His Pro Tyr Pro Lys Asp Ala Asp Lys His Met
 35 40 45
 Leu Ala Arg Gln Thr Gly Leu Thr Arg Asn Gln Val Ser Asn Trp Phe
 50 55 60
 Ile Asn Ala Arg Val Arg Leu Trp Lys Pro Met Val Glu Glu Met Tyr
 65 70 75 80
 Val Glu Glu Thr Lys Glu Ala Glu Val Asp His Gly Ser Asn Asp Lys
 85 90 95
 Thr Gly Lys Glu Ser Gly Glu Lys Lys Glu Asp Ala Leu Ser Lys Glu
 100 105 110
 Gly Ala Ala Gly Asn Asn Gly Asn Ile His Glu Gln Gln Ser Gly Lys
 115 120 125
 Ile Ser Lys Leu Asp Asn Ile Ala Gln Asp Gly Gly Ala Asp Glu Lys
 130 135 140
 Pro Ala Gly Val Pro Lys Ser Glu Asn
 145 150

<210> 951
 <211> 107
 <212> PRT
 <213> Pinus radiata

<400> 951
 Met Asn Leu Met Glu Ser Phe Glu Ala Lys Gly Lys Gly Glu Lys Arg
 1 5 10 15
 Arg Thr Val Arg Gly Lys Thr Gln Leu Lys Arg Ile Glu Asn Gly Thr
 20 25 30
 Ser Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys
 35 40 45
 Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val
 50 55 60
 Phe Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Asn Pro Ser Met Gln
 65 70 75 80
 Lys Met Leu Glu Arg Tyr Glu Lys Cys Ser Glu Gly Ser Asn Pro Thr
 85 90 95
 Ser Thr Ala Lys Glu Gln Asp Val Gln Cys Leu
 100 105

<210> 952
 <211> 217
 <212> PRT
 <213> Pinus radiata

<400> 952
 Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Asp Thr Ser
 1 5 10 15
 Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Ile Phe
 35 40 45
 Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Ser Pro Ser Met Glu Glu

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| 50 | | 55 | | 60 | |
| Ile | Leu | Glu | Lys | Tyr | Lys |
| 65 | | 70 | | 75 | |
| Thr | Thr | Lys | Glu | Gln | Asp |
| | | 85 | | 90 | |
| Leu | Ala | Asn | Met | Glu | Glu |
| | | 100 | | 105 | |
| Lys | Met | Leu | Gly | Glu | Gly |
| | | 115 | | 120 | |
| Lys | Leu | Glu | Ser | Gln | Ala |
| | | 130 | | 135 | |
| Lys | Thr | Glu | Ile | Leu | Val |
| 145 | | | | 150 | |
| Arg | Leu | Leu | Ser | Glu | Asn |
| | | | | 165 | |
| Arg | Gln | Ser | Val | Asp | Gly |
| | | | | 180 | |
| Gly | Ser | Ile | Glu | Gln | Ile |
| | | | | 195 | |
| Pro | Asn | Ala | Gln | Asp | His |
| | | | | 210 | |

<210> 953
 <211> 183
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> | 953 | | | | | | | | | | | | | | |
| Met | Glu | Ser | Glu | Glu | Asp | Lys | Ile | Ser | Pro | Glu | Asn | Lys | Lys | Arg | Arg |
| 1 | | 5 | | | | | | | 10 | | | | | 15 | |
| Leu | Lys | Thr | Pro | Gln | Gln | Val | Glu | Gly | Leu | Glu | Ser | Phe | Tyr | Ala | Glu |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| His | Lys | Tyr | Pro | Ser | Glu | Ala | Met | Lys | Ser | Gln | Leu | Ser | Glu | Glu | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Leu | Thr | Glu | Lys | Gln | Val | Gln | Gly | Trp | Phe | Cys | His | Arg | Arg | Leu |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Lys | Asp | Lys | Arg | Leu | Met | Lys | Glu | Glu | Ala | Ser | Asn | Asn | Gly | Lys | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Asp | Pro | His | Asn | Gly | Ile | Met | Gln | Asp | Ser | Val | Asn | Gly | Val | Lys | Gln |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Asp | Ser | Ser | Gly | Ser | Gly | Lys | Lys | Ser | Asp | His | Gln | Arg | His | Ser | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Cys | Lys | Glu | Val | Glu | Ser | Gln | Arg | Phe | Ala | Asn | Ala | Met | Asp | Tyr | Pro |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ala | Val | Leu | Ala | Ser | Glu | Leu | Arg | Asp | His | Asp | Leu | Phe | Lys | Val |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Asn | His | Asp | Asn | Glu | Asp | Thr | Phe | Ala | Gly | Ser | Ser | Ser | Ala | Ser | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Asp | Arg | Ser | Ser | Leu | Gln | Ser | Gly | Asn | Pro | Tyr | Glu | Ala | Glu | Ala | Arg |
| | | | | 165 | | | | 170 | | | | | | 175 | |
| Arg | Arg | Pro | Phe | Gln | Asn | Gly | | | | | | | | | |
| | | | 180 | | | | | | | | | | | | |

<210> 954
 <211> 105
 <212> PRT
 <213> Pinus radiata

<400> 954
 Ala Leu Phe Gly Ala Val Gln Ser Leu Pro Val Phe Thr Phe Ala Asn
 1 5 10 15
 Gln Ala Gly Leu Asp Met Leu Glu Thr Thr Leu Val Ala Leu Gln Asp
 20 25 30
 Ile Ser Leu Glu Lys Ile Leu Asp Asp Asn Gly Arg Lys Ser Phe Cys
 35 40 45
 Ser Asp Ile Ala Gln Ile Met Gln Gln Gly Tyr Ala Tyr Leu Pro Ala
 50 55 60
 Gly Val Cys Val Ser Ser Met Gly Arg Pro Ala Ser Tyr Asp Arg Ala
 65 70 75 80
 Ile Ala Trp Lys Val Leu Asn Asp Glu Glu Asn Pro His Cys Ile Ala
 85 90 95
 Phe Met Phe Met Asn Trp Ser Phe Val
 100 105

<210> 955
 <211> 85
 <212> PRT
 <213> Pinus radiata

<400> 955
 Gln Arg Ile Trp His Glu Pro Ala Ser Asn Asn Lys Phe Thr Tyr Asn
 1 5 10 15
 Cys Asp Asn His Thr Phe Asn Tyr Leu Val Glu Asp Gly Phe Ala Tyr
 20 25 30
 Cys Val Val Ala Asp Glu Ser Val Gly Arg Gln Val Pro Met Ala Phe
 35 40 45
 Leu Glu Arg Val Lys Glu Asp Phe Lys Arg Arg Tyr Gly Gly Gly Arg
 50 55 60
 Ala Asp Thr Ala Val Ala Asn Ser Leu Asn Arg Asp Phe Gly Ser Lys
 65 70 75 80
 Leu Lys Glu His Met
 85

<210> 956
 <211> 119
 <212> PRT
 <213> Pinus radiata

<400> 956
 Val Asn Ser Asn Gln Ser Asn Met Leu Ile Leu Gln Glu Ser Cys Thr
 1 5 10 15
 Asp Ala Ser Gly Ser Phe Val Ile Tyr Ala Pro Val Asp Ile Val Ala
 20 25 30
 Met Asn Val Val Leu Ser Gly Gly Asp Pro Asp Tyr Val Ala Leu Leu
 35 40 45
 Pro Ser Gly Phe Ala Ile Leu Pro Asp Gly Pro Lys Cys Met Ala Val
 50 55 60
 Thr Asn Ser Gly Ile Asn Asp Leu Gly Ser Gly Gly Ser Leu Leu Thr
 65 70 75 80
 Val Ala Phe Gln Ile Leu Val Asp Ser Val Pro Thr Ala Lys Leu Ser
 85 90 95
 Leu Gly Ser Val Ala Thr Val Asn Ser Leu Ile Ser Cys Thr Val Asp
 100 105 110
 Arg Ile Lys Ala Ala Val Thr

115

<210> 957
 <211> 90
 <212> PRT
 <213> Pinus radiata

<400> 957
 Gln Leu Leu Phe His Leu Arg Ser Gln Ser Ile Ser Pro Leu Val Thr
 1 5 10 15
 Cys Leu Arg Ser His Arg Ala Pro Pro Trp Pro Thr Pro Ile Ser Trp
 20 25 30
 Leu Cys Ile Ile Arg Val Met Thr Glu Glu Gln Met Glu Thr Leu
 35 40 45
 Arg Arg Gln Ile Cys Val Tyr Ser Thr Ile Gly Ser Gln Leu Val Glu
 50 55 60
 Met His Arg Ala Met Ser Gln Gln Gln Ala Phe Phe Ser Gly Arg Leu
 65 70 75 80
 Cys Leu Trp Asp Asn Thr Cys Phe Met Ile
 85 90

<210> 958
 <211> 103
 <212> PRT
 <213> Pinus radiata

<400> 958
 Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
 1 5 10 15
 Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
 35 40 45
 Ser Ser Arg Gly Lys Leu Tyr Glu Phe Gly Ser Ala Gly Tyr Gly Ile
 50 55 60
 Glu Ile Ser Gly Leu Phe Ser Gly Ile Leu Tyr Tyr Asn Ile Arg Val
 65 70 75 80
 Gly Glu Gly Cys Glu Gly Glu Lys Arg Gly Cys Lys Val Tyr Ser Val
 85 90 95
 Ile Cys Phe Lys Gly Lys Ser
 100

<210> 959
 <211> 63
 <212> PRT
 <213> Pinus radiata

<400> 959
 Met Val Arg Gly Lys Ile Gln Met Lys Arg Ile Glu Asn Thr Ala Ser
 1 5 10 15
 Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Met Ile Phe
 35 40 45
 Ser Pro Gly Gly Lys Leu Tyr Glu Phe Ala Asn Thr Ser Met Glu
 50 55 60

<210> 960
 <211> 60
 <212> PRT
 <213> Pinus radiata

<400> 960
 Met Leu Leu Gln Asn Val Pro Pro Ala Leu Leu Val Arg Phe Leu Arg
 1 5 10 15
 Glu His Arg Ser Glu Trp Ala Asp Cys Asn Ile Asp Ala Tyr Ser Ser
 20 25 30
 Ala Thr Met Lys Ala Asn Ala Tyr Asn Val Pro Gly Ser Leu Gly Gly
 35 40 45
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<400> 961
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<210> 962
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<212> PRT

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<400> 970

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| Ala | Asn | Lys | Ser | Val | Ser | Ala | Thr | Thr | Glu | Arg | Tyr | Met | Arg | Thr | Tyr | | |
| | 50 | | | | 55 | | | | | | 60 | | | | | | |
| Ala | Glu | Asn | Met | Pro | Gln | Ser | Arg | Ala | Leu | Tyr | Pro | Asp | Cys | His | His | | |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | | | |
| Trp | Gln | Glu | Glu | Val | Arg | Lys | Leu | Thr | Gln | Gln | Arg | Asp | Ser | Leu | Thr | | |
| | | | 85 | | | | | 90 | | | | | | 95 | | | |
| Asn | Ser | Ile | Arg | Gln | Ile | Met | Gly | Glu | Gly | Leu | Glu | Ser | Leu | Ser | Met | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |
| Lys | Glu | Leu | Lys | His | Ile | Gln | Val | Gln | Leu | Glu | Lys | Ser | Ile | Ser | Cys | | |
| | 115 | | | | | 120 | | | | | | 125 | | | | | |

<210> 981
 <211> 119
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Tyr | Thr | Ala | Glu | Gln | Val | Glu | Ala | Leu | Glu | Arg | Leu | Tyr | Asn | Asp | Cys | | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | | |
| Pro | Lys | Pro | Ser | Ser | Leu | Arg | Arg | Gln | Gln | Leu | Ile | Arg | Glu | Cys | Pro | | |
| | | 20 | | | | | | 25 | | | | | 30 | | | | |
| Ile | Leu | Ser | His | Ile | Glu | Pro | Lys | Gln | Ile | Lys | Val | Trp | Phe | Gln | Asn | | |
| | | 35 | | | | 40 | | | | | | 45 | | | | | |
| Arg | Arg | Cys | Arg | Glu | Lys | Gln | Arg | Lys | Glu | Ala | Ser | Arg | Leu | Gln | Thr | | |
| | 50 | | | | 55 | | | | | | 60 | | | | | | |
| Val | Asn | Arg | Lys | Leu | Thr | Ala | Met | Asn | Lys | Leu | Leu | Met | Glu | Glu | Asn | | |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | | | |
| Asp | Arg | Leu | Gln | Lys | Gln | Val | Ser | Gln | Leu | Val | Tyr | Glu | Asn | Gly | Tyr | | |
| | | | 85 | | | | | 90 | | | | | | 95 | | | |
| Phe | Arg | Gln | Gln | Ile | Gln | Thr | Val | Ser | Ile | Thr | Thr | Thr | Asp | Thr | Ser | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |
| Cys | Glu | Ser | Val | Val | Thr | Ser | | | | | | | | | | | |
| | 115 | | | | | | | | | | | | | | | | |

<210> 982
 <211> 85
 <212> PRT
 <213> Pinus radiata

<400> 982
 Lys His Glu Phe Asp Val Arg Tyr Gln Lys Leu Glu Asp Lys Leu Tyr
 1 5 10 15
 Ile Ala Gln Leu Tyr Phe Pro Leu Ile Gly Leu Ile Leu Asp Glu Met
 20 25 30
 Pro Val Phe Tyr Asn Leu Ser Thr Val Glu Lys Arg Glu Val Leu Ile
 35 40 45
 Cys Ile Met Gln Ile Ile Arg Asn Leu Asp Asp Pro Ser Leu Ile Lys
 50 55 60
 Ala Trp Gln Gln Ser Ile Ala Arg Thr Arg Leu Phe Phe Lys Leu Leu
 65 70 75 80
 Glu Glu Cys Leu Val
 85

<210> 983
 <211> 96
 <212> PRT
 <213> Pinus radiata

<400> 983
 Gly Leu Leu Val Thr Met Arg Leu Phe Ala Ala Thr Glu Pro Lys Arg
 1 5 10 15
 Val Phe Ala Val Thr Lys Arg Ile Phe Leu Leu Gly Phe Val Ser Phe
 20 25 30
 Phe Leu Arg Glu Gly Leu Val Ala Ser Val Trp Leu Pro Val Ser Pro
 35 40 45
 Gln Arg Leu Phe Asp Phe Leu Arg Asp Glu Arg Leu Arg Ser Lys Trp
 50 55 60
 Asp Ile Leu Ser Asn Gly Gly Pro Met Gln Glu Met Ala His Ile Pro
 65 70 75 80
 Lys Gly Gln Asp Pro Arg Asn Cys Val Ser Leu Leu Arg Ala Ser Ile
 85 90 95

<210> 984
 <211> 109
 <212> PRT
 <213> Pinus radiata

<400> 984
 Leu Val Ser Leu Tyr Asn Asn His Leu Asn Gly Ile Leu Ala Asp Glu
 1 5 10 15
 Met Gly Leu Gly Lys Thr Val Gln Val Ile Ser Leu Ile Cys Tyr Leu
 20 25 30
 Met Glu Gln Lys Asn Asp Arg Gly Pro Phe Leu Val Val Val Pro Ser
 35 40 45
 Ser Val Leu Ser Gly Trp Leu Ser Glu Ile Ser Phe Trp Ala Pro Ser
 50 55 60
 Ile Ser Lys Ile Ala Tyr Thr Gly Ser Pro Asp Asp Arg Arg Arg Leu
 65 70 75 80
 Phe Arg Glu Asn Ile Ser Gln Gln Lys Phe Asn Val Leu Leu Thr Thr
 85 90 95

Tyr Glu Tyr Leu Met Asn Lys Arg Ser Thr Lys Thr Glu
100 105

<210> 985
<211> 52
<212> PRT
<213> Pinus radiata

<400> 985
Pro Lys Asp Ala Asp Lys His Met Leu Ala Arg Gln Ala Gly Leu Thr
1 5 10 15
Arg Ser Gln Val Ser Asn Trp Phe Ile Asn Ala Arg Val Arg Leu Trp
20 25 30
Lys Pro Met Val Glu Glu Ile Tyr Met Glu Glu Ile Lys Glu Ala Glu
35 40 45
Leu Gly His Ser
50

<210> 986
<211> 101
<212> PRT
<213> Pinus radiata

<400> 986
Gln Gln Asp Asp Asp Ala Lys Val Tyr Glu Ser Pro Leu Arg Arg Lys
1 5 10 15
Asn Ala Glu Ala Pro Arg Thr Arg Trp Arg Phe Leu Pro Leu Glu Ser
20 25 30
Ala Leu Glu Asn Pro Tyr Gln Gly Leu Met Lys His Cys Thr Ser Leu
35 40 45
Leu Lys Thr Leu Met Asn His Lys Phe Gly Tyr Val Phe Asn Glu Pro
50 55 60
Val Asp Pro Val Ala Leu Gly Val Pro Asp Tyr Phe Thr Val Ile Thr
65 70 75 80
Ser Pro Met Asp Leu Gly Thr Ile Lys Ala Lys Leu Gln Asp Ser Val
85 90 95
Tyr Ser Ser Pro Leu
100

<210> 987
<211> 230
<212> PRT
<213> Pinus radiata

<400> 987
Cys Thr Gly Val Ala Ala Arg Ala Cys Gly Phe Ala Gly Leu Glu Pro
1 5 10 15
Ser Lys Val Ala Asp Ile Leu Lys Asp Arg Pro Ala Trp Leu His Asp
20 25 30
Cys Arg Arg Leu Asp Val Leu Thr Ala Phe Pro Thr Gly Lys Gly Gly
35 40 45
Ala Val Glu Leu Leu Tyr Thr Gln Met Tyr Ala Pro Thr Thr Leu Ala
50 55 60
Pro Ala Arg Asp Leu Leu Thr Leu Arg Tyr Thr Ser Leu Leu Glu Asp
65 70 75 80
Gly Ser Leu Val Val Cys Glu Arg Ser Leu Thr Gly Thr Gln Ser Gly
85 90 95

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Asn | Met | Pro | Pro | Val | Gln | His | Phe | Val | Arg | Ala | Gln | Met | Leu | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Gly | Tyr | Leu | Ile | Arg | Pro | Cys | Glu | Gly | Gly | Gly | Cys | Ile | Ile | His |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ile | Val | Asp | His | Met | Asp | Leu | Glu | Pro | Trp | Ser | Val | Pro | Glu | Val | Ile |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Arg | Pro | Leu | Tyr | Glu | Ser | Ser | Ala | Val | Leu | Ala | Gln | Lys | Met | Thr | Ile |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Thr | Ala | Leu | Arg | His | Leu | Arg | Gln | Val | Ala | Gln | Glu | Val | Ser | Gly | Glu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Val | Leu | Gly | Trp | Gly | Arg | Gln | Pro | Ala | Ala | Leu | Arg | Ala | Phe | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gln | Arg | Leu | Cys | Arg | Gly | Phe | Asn | Asp | Ala | Val | Asn | Gly | Phe | Ala | Asp |
| | | 195 | | | | | 200 | | | | 205 | | | | |
| Asp | Gly | Trp | Ser | Leu | Leu | Gly | Ser | Asp | Gly | Val | Glu | Asp | Val | Ile | Ile |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ile | Asn | Ser | Ser | Pro | | | | | | | | | | |
| 225 | | | | | 230 | | | | | | | | | | |

<210> 988

<211> 164

<212> PRT

<213> Pinus radiata

<400> 988

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Tyr | Leu | Arg | Gln | Gln | Leu | Gln | Leu | Leu | His | Ala | Arg | Ala | Gly | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Thr | Arg | Ser | Leu | Gln | Gln | Met | Ala | Val | Thr | Ala | Asn | Asp | Thr | Ser |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Ser | Asp | Ser | Val | Val | Thr | Ser | Gly | Gln | Arg | Gln | Gln | His | Ser | Pro | Gln |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| His | Pro | Pro | Tyr | Ser | Val | Ser | Thr | Ser | Arg | Leu | Phe | Phe | Ile | Ala | Glu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Glu | Thr | Leu | Thr | Glu | Phe | Leu | Ala | Lys | Ala | Thr | Gly | Thr | Ala | Val | Asp |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Trp | Ile | Gln | Met | Pro | Gly | Met | Lys | Pro | Gly | Pro | Asp | Ser | Ile | Gly | Val |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Val | Ala | Val | Ala | His | Ala | Cys | Gly | Gly | Val | Ala | Val | Gln | Ala | Trp | Gly |
| | | | 100 | | | | | 105 | | | | 110 | | | |
| Val | Val | Ser | Leu | Glu | Pro | Ser | Glu | Val | Ala | Glu | Ala | Leu | Arg | Asp | Lys |
| | | 115 | | | | | 120 | | | | 125 | | | | |
| Val | Ser | Trp | Leu | Cys | Asp | Cys | Arg | Lys | Met | Glu | Val | Leu | Gly | Thr | Phe |
| | 130 | | | | | 135 | | | | 140 | | | | | |
| Asp | Ser | Thr | Asp | Gly | Arg | Lys | Leu | Glu | Leu | Leu | His | Thr | Gln | Met | Tyr |
| 145 | | | | | 150 | | | | 155 | | | | | | 160 |
| Ala | Pro | Ile | Thr | | | | | | | | | | | | |

<210> 989

<211> 107

<212> PRT

<213> Pinus radiata

<400> 989

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Lys | Thr | Lys | Met | Glu | Met | Lys | His | Ile | Gln | Asn | Pro | Ser | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gln | Val | Thr | Phe | Ser | Lys | Arg | Lys | Asn | Gly | Leu | Leu | Lys | Lys | Ala |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Phe | Glu | Leu | Ser | Val | Leu | Cys | Asp | Ala | Glu | Val | Ala | Leu | Ile | Ile | Phe |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Glu | Thr | Gly | Lys | Ile | Ser | Glu | Phe | Ala | Ser | His | Asn | Asp | Met | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Ile | Leu | Glu | Lys | Tyr | Arg | Ile | Tyr | Thr | Gln | Thr | Glu | Thr | Asp | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asn | Met | Gly | Ala | Ser | Ser | Val | Gln | Ser | Val | Lys | Gly | Trp | Phe | Pro | Asn |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Phe | Leu | Glu | Ile | Ala | Gly | Phe | Ser | Val | Cys | Gly | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 990
 <211> 68
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| Met | Gly | Arg | Gly | Pro | Val | Gln | Leu | Arg | Arg | Ile | Glu | Asn | Lys | Ile | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gln | Val | Thr | Phe | Ser | Lys | Arg | Arg | Asn | Gly | Leu | Ile | Lys | Lys | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Glu | Leu | Ser | Ile | Leu | Cys | Asp | Ala | Glu | Val | Ala | Leu | Ile | Val | Phe |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ser | Asn | Lys | Gly | Lys | Leu | Tyr | Glu | Phe | Ser | Ser | Ser | Ser | Met | Thr | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ile | Leu | Glu | Arg | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | |

<210> 991
 <211> 230
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| Leu | Ser | Leu | Ser | Pro | Gln | Gln | Leu | Ser | Asn | Ile | Gln | Leu | Ser | Cys | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Asn | Gln | Pro | Thr | Asp | Ser | Glu | Val | Asn | Cys | Pro | Ser | Ile | Ser | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Thr | Ser | Gln | Glu | Asn | Leu | Asn | Arg | Ser | Asp | Arg | Leu | Thr | Ser | Lys |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Leu | Ser | Gly | Ser | Leu | Ser | Ser | Phe | Arg | Ala | Ser | Ser | Arg | Asp | Gly | Met |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Gly | Thr | Lys | Phe | Leu | Gly | Ser | Val | Asn | Gly | Pro | Glu | Cys | Asn | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Pro | Met | His | His | Gly | Thr | Asn | Ala | Ile | Gly | Ala | Ala | Glu | Leu | Ser | Asn |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Thr | Leu | Thr | Gly | Ser | Lys | Tyr | Phe | Lys | Ala | Ala | Gln | Gln | Leu | Leu | Asp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Val | Val | Asn | Val | Gly | Lys | Gly | Ile | Lys | Ser | Asp | Ser | Val | Asn | His |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gln | Lys | Ser | Gln | Thr | Trp | Phe | Gly | Ala | Ile | Ser | Asp | Lys | Lys | Asn | Ile |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ala | Thr | Glu | Ala | Thr | Thr | Asn | Asp | Arg | Thr | Thr | Ser | Ala | Ile | Thr | Gly |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ala | Ser | Ile | Ser | Ala | Glu | Val | Met | Lys | Asn | Glu | His | Ala | Phe | Gly | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Ala | Asp | Arg | Gln | Glu | Leu | Gln | Met | Lys | Lys | Ala | Lys | Leu | Val |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Met | Leu | Asp | Glu | Val | Asp | Arg | Arg | Tyr | Arg | Gln | Tyr | Tyr | His | Gln |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Met | Gln | Ile | Val | Val | Ser | Ser | Phe | Glu | Thr | Ala | Ala | Gly | Phe | Gly | Ala |
| | 210 | | | | | 215 | | | | | | 220 | | | |
| Ala | Lys | Thr | Tyr | Thr | Ser | | | | | | | | | | |
| 225 | | | | | 230 | | | | | | | | | | |

<210> 992
 <211> 76
 <212> PRT
 <213> Pinus radiata

<400> 992

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Arg | Gly | Lys | Ile | Glu | Leu | Lys | Lys | Ile | Glu | Ser | Thr | Ser | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gln | Val | Thr | Phe | Ser | Lys | Arg | Arg | Met | Gly | Leu | Leu | Lys | Lys | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Glu | Leu | Ser | Val | Leu | Cys | Asp | Ala | Glu | Val | Gly | Val | Ile | Ile | Phe |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Asn | Thr | Gly | Arg | Leu | Tyr | Asp | Phe | Ser | Ser | Ser | Ser | Met | Glu | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Met | Ile | Glu | Thr | Tyr | Tyr | Arg | Phe | Ile | Glu | Lys | Asn | | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 993
 <211> 77
 <212> PRT
 <213> Pinus radiata

<400> 993

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Thr | Leu | Phe | Leu | Val | Leu | Gln | Val | Leu | Asp | Arg | Gly | Glu | Lys | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Leu | Leu | Val | Asp | Lys | Thr | Glu | Asn | Leu | Arg | Phe | Gln | Ala | Gln | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Gln | Lys | Gln | Gly | Thr | Gln | Leu | Arg | Arg | Lys | Met | Trp | Phe | Gln | Asn |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Met | Lys | Val | Lys | Leu | Val | Val | Leu | Gly | Ile | Val | Phe | Val | Leu | Ile | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ile | Ile | Trp | Leu | Ser | Ile | Cys | His | Gly | Phe | Lys | Cys | His | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 994
 <211> 110
 <212> PRT
 <213> Pinus radiata

<400> 994

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Asn | Ser | Arg | Ser | Asp | Gly | Asn | Gly | Lys | Ala | Asp | Arg | Ser | Asp | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Met | Gly | Thr | Glu | Ala | Arg | Thr | Arg | Thr | Arg | Phe | Trp | Arg | Arg | Arg | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Val | Arg | Arg | Leu | Lys | Tyr | Thr | Trp | Lys | Ser | Ala | Gly | His | Pro | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Lys | Lys | Arg | Ile | Ala | Asp | Ser | Lys | Asp | Gln | Pro | Cys | Arg | Gln | Phe |
| | 50 | | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Cys | Asp | Cys | Gln | Ser | Met | Cys | Gly | Lys | Gln | Cys | Pro | Cys | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Arg | Ser | Gly | Thr | Cys | Cys | Glu | Lys | Tyr | Cys | Gly | Cys | Ser | Lys | Gly | Cys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Asn | Arg | Phe | Arg | Gly | Cys | His | Cys | Ala | Lys | Ser | Gln | Cys | | |
| | | | 100 | | | | | 105 | | | | | 110 | | |

<210> 995
 <211> 293
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 995 | | | | | | | | | | | | | | | |
| Ala | Ser | Gln | Phe | Ser | Gly | Asn | Asp | Met | Arg | Asn | Tyr | Gly | Ala | Lys | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Thr | Ser | Gly | Leu | Ala | Thr | Gly | Gly | Gln | Arg | Pro | Pro | Ala | Leu | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Asn | Leu | Ala | Ala | Leu | Asp | Ser | Ser | Gly | Asp | Gly | Ala | Ala | Ala | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Lys | Arg | Thr | Pro | Lys | Val | Asn | Pro | Tyr | Tyr | Leu | Asn | Ser | Glu | Phe |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Met | Gly | Lys | Asp | Lys | Met | Pro | Pro | Pro | Pro | Pro | Asp | Asn | Lys | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gly | Gly | Met | Lys | Arg | Thr | Ala | Gln | Gly | Lys | Ser | Glu | Ile | Arg | Glu | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Arg | Pro | Val | Ala | Asp | Pro | Met | Asn | Gly | Lys | Ile | Leu | Gln | Asp | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Met | Lys | Gln | Cys | Gly | Phe | Leu | Leu | Ser | Arg | Leu | Ile | Lys | His | Lys | His |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gly | Trp | Val | Phe | Lys | Ala | Pro | Val | Asp | Thr | Val | Ala | Leu | Gly | Leu | His |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Tyr | Asn | Thr | Ile | Ile | Lys | Gln | Pro | Met | Asp | Leu | Gly | Thr | Ala | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ala | Lys | Leu | Asn | Ala | Asn | Glu | Tyr | Lys | Ser | Pro | Gln | Glu | Phe | Ala | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Asp | Ile | Arg | Leu | Thr | Phe | Asn | Asn | Ala | Met | Thr | Tyr | Asn | Pro | Asn | Gly |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| His | Glu | Val | His | Ile | Met | Ala | Glu | Gln | Met | Leu | Gln | Phe | Phe | Glu | Asp |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Arg | Trp | Lys | Pro | Ile | Cys | Asp | Arg | Tyr | Glu | Glu | Glu | Lys | Arg | Lys | Leu |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ser | Trp | Ser | Val | Asn | Asp | Gly | Leu | Leu | Pro | Gly | Ala | Ser | Gln | Asn | Met |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Lys | Asn | Phe | Pro | Phe | Gly | Glu | Thr | Pro | Lys | Lys | Asn | Leu | Lys | Lys | Thr |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Glu | Pro | Leu | Leu | Gly | Leu | Ser | Pro | Arg | Pro | Pro | Pro | Asn | Ala | Lys | Ser |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Lys | Ala | Asn | Gln | Thr | Leu | Arg | Ala | Pro | Ala | Pro | Lys | Lys | Pro | Lys | Ala |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Lys | Asp | Leu | His | Lys | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 290 |

<210> 996
 <211> 144
 <212> PRT
 <213> Pinus radiata

120

<400> 1001

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<210> 1002
<211> 130
<212> PRT
<213> Pinus radiata
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<400> 1002

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<210> 1003
<211> 276
<212> PRT
<213> Pinus radiata
```

<400> 1003

Val Lys Leu Gly Thr Thr Asn Thr Trp Leu Ser Arg Ala Val Ser Gly

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50 | | 55 | | 60 | | | | | | | | | | | |
| Thr | Ile | Leu | Glu | Lys | Tyr | Arg | Ile | Tyr | Thr | Gln | Thr | Glu | Thr | Asp | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asn | Met | Gly | Ala | Ser | Ser | Val | Gln | Ser | Val | Lys | Val | Gly | Glu | Ser | Gln |
| | | | | 85 | | | | | | 90 | | | | 95 | |
| Leu | Lys | Ala | Leu | His | Glu | Arg | Met | Asp | Asn | Leu | Lys | Lys | Lys | Glu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asn | Met | | | | | | | | | | | | | | |

<210> 1008
 <211> 90
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 1008 | | | | | | | | | | | | | | | |
| Met | Ala | Ser | Asn | Gly | Ile | Met | Phe | Asn | Ala | Ser | Asn | Arg | Asn | Leu | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Met | Val | Asn | Glu | Ala | Pro | Ser | Phe | Glu | Ala | Asn | Ser | Ser | Leu | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Val | Met | Lys | Asn | Val | Ser | Lys | Arg | Pro | Phe | Tyr | Asn | Thr | Leu | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Asp | Glu | Ala | Gly | Asp | Glu | Asp | Leu | Leu | Asp | Glu | Cys | Val | His | Gln |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Pro | Gly | Lys | Lys | Arg | Arg | Leu | Ser | Val | Glu | Gln | Val | Arg | Phe | Leu | Glu |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Lys | Ser | Phe | Glu | Leu | Asp | Asn | Lys | Leu | Glu | | | | | | |
| | | | | 85 | | | | | 90 | | | | | | |

<210> 1009
 <211> 107
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 1009 | | | | | | | | | | | | | | | |
| Leu | Glu | Arg | Ser | Ile | Arg | Gln | Gln | Arg | Ala | Phe | His | His | Leu | Gly | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Met | Glu | Gln | His | Pro | Trp | Arg | Pro | Gln | Arg | Gly | Leu | Pro | Glu | Arg | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Ser | Val | Leu | Arg | Ala | Trp | Leu | Phe | Glu | His | Phe | Leu | His | Pro | Tyr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Thr | Asp | Ala | Asp | Lys | His | Ile | Leu | Ala | Lys | Gln | Thr | Gly | Leu | Thr |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Arg | Ser | Gln | Val | Ser | Asn | Trp | Phe | Ile | Asn | Ala | Arg | Val | Arg | Leu | Trp |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Lys | Pro | Met | Val | Glu | Glu | Met | Tyr | Met | Glu | Glu | Leu | Lys | Glu | Glu | Lys |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Val | Asp | Gln | Gly | Thr | His | Asn | Ser | Glu | Ala | Glu | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 1010
 <211> 126
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 1010 | | | | | | | | | | | | | | | |
| Met | Asn | Leu | Asn | Asp | His | Thr | Tyr | Asn | Leu | Ser | Pro | Met | Ala | Asn | Ser |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | | 5 | | 10 | | 15 | | | | | | | | | |
| Gly | Asn | Pro | Glu | Glu | Gln | Ile | Asp | Glu | Asp | Ala | Val | Asp | Asp | Phe | Met |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Asn | Tyr | Gln | Pro | Glu | Ser | Lys | Lys | Arg | Arg | Leu | Thr | Val | Glu | Gln | Val |
| | | 35 | | | | | 40 | | | | | | 45 | | |
| Arg | Ser | Leu | Glu | Arg | Ser | Phe | Glu | Ile | Glu | Thr | Lys | Leu | Glu | Pro | Glu |
| | | 50 | | | | 55 | | | | | | 60 | | | |
| Lys | Lys | Ile | Gln | Leu | Ala | Gln | Glu | Leu | Gly | Leu | Gln | Pro | Arg | Gln | Val |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | Ile | Trp | Phe | Gln | Asn | Arg | Arg | Ala | Arg | Trp | Lys | Thr | Lys | Gln | Leu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Glu | Arg | Asp | Tyr | Ser | Val | Leu | Lys | Ala | Ser | Tyr | Asp | Ala | Leu | Lys | Ser |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Asp | Phe | Glu | Arg | Leu | Gln | Gln | Glu | Asn | Lys | Asn | Ile | Arg | Ala | | |
| | | 115 | | | | | 120 | | | | | 125 | | | |

<210> 1011
 <211> 96
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| Met | Phe | Thr | Ile | Ser | Thr | Cys | Thr | Thr | His | Ala | Gln | Ser | Leu | Ile | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Phe | Val | Ala | Arg | Gly | Thr | Val | Val | Leu | Ala | Glu | Tyr | Thr | Glu | Phe |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Lys | Gly | Asn | Phe | Thr | Gly | Ile | Ala | Gln | Cys | Leu | Gln | Lys | Leu | Pro | |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ala | Ser | Asn | Asn | Lys | Phe | Thr | Tyr | Asn | Cys | Asp | Asn | His | Thr | Phe | Asn |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Tyr | Leu | Asp | Glu | Asp | Gly | Phe | Ala | Tyr | Cys | Val | Val | Ala | Asp | Glu | Ser |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 |
| Val | Gly | Arg | Gln | Val | Pro | Met | Ala | Phe | Leu | Glu | Arg | Val | Lys | Glu | Asp |
| | | | 85 | | | | | 90 | | | | | | 95 | |

<210> 1012
 <211> 110
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| Gly | Cys | Pro | Gly | Asn | Ile | His | Asp | Asp | Asp | Glu | Glu | Glu | Asp | Glu | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Cys | Ser | Gly | Thr | Gly | Gln | Gln | Thr | Arg | Lys | Lys | Arg | Arg | Leu | Ser |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Leu | Gln | Gln | Val | Arg | Ser | Leu | Glu | Lys | Thr | Phe | Glu | Val | Glu | Asn | Lys |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Leu | Glu | Pro | Glu | Arg | Lys | Leu | Gln | Leu | Ala | Gln | Glu | Leu | Gly | Leu | Gln |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Pro | Arg | Gln | Val | Ala | Val | Trp | Phe | Gln | Asn | Arg | Arg | Ala | Arg | Trp | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Thr | Lys | Gln | Leu | Glu | Arg | Asp | Tyr | Gly | Gln | Leu | Lys | Leu | Asn | Phe | Glu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Cys | Leu | Lys | Ser | Asn | Phe | Asp | Ala | Ile | Lys | Gln | Glu | Asn | Gln | | |
| | | 100 | | | | | | 105 | | | | | 110 | | |

<210> 1013

<211> 108
 <212> PRT
 <213> Pinus radiata

<400> 1013
 Met Ala Gly Glu Lys Arg Lys Ile Asn Arg Ile Ala Asn Ala Ser Ala
 1 5 10 15
 Arg Gln Val Thr Phe Ala Lys Arg Arg Arg Gly Leu Phe Lys Lys Ala
 20 25 30
 Gln Glu Leu Ser Ile Leu Cys Glu Ala Asp Val Ala Leu Leu Val Phe
 35 40 45
 Ser Ser Thr Gly Lys Leu Tyr Gln Tyr Ser Ser Ser Met Lys Met
 50 55 60
 Ile Leu Asp Gln Tyr Ile Leu Tyr Ser Arg Ser Ile Gln Lys Asp Gly
 65 70 75 80
 Lys Pro Asn Leu Glu Glu Ser His Asp Ile Gln Lys Ile Lys Gln Gln
 85 90 95
 Ile Lys Asp Ile Ser Gln Asn Leu Arg Lys Leu Arg
 100 105

<210> 1014
 <211> 177
 <212> PRT
 <213> Pinus radiata

<400> 1014
 Met Gly Met Asp Met Glu Asp Cys Asn Thr Gly Leu Gly Leu Gly Met
 1 5 10 15
 Ser Ile Gly Leu Gly Met Asn Leu Met Arg Glu Asp Leu Gln Ser His
 20 25 30
 Arg His His Val Asn Gly Pro Pro Val Gln Leu Asp Leu Leu Pro Leu
 35 40 45
 Ala Pro Val Leu Pro Ser Arg Asp Leu Pro Trp Gly Lys Thr Ser Pro
 50 55 60
 Gly Thr Asp Gly Glu Arg Ser Ala Gly Glu Ser Lys Ala Thr Val Pro
 65 70 75 80
 Arg Arg Ile Asp Val Asn Lys Leu Pro Ala Ser Cys Tyr Tyr Asn Glu
 85 90 95
 Asp Thr Gly Thr Ile Asn Val Ser Ser Pro Asn Ser Ala Leu Ser Ser
 100 105 110
 Phe His Val Asp Ser Gly Gly Ala Ile Asn Ala Glu Ser Ser Cys Tyr
 115 120 125
 Gly Met Ser Val Lys Arg Glu Arg Glu Ala Thr Glu Glu Leu Glu Ala
 130 135 140
 Glu Arg Ala Cys Ser Arg Val Ser Asp Glu Glu Ala Asp Gln Glu Gly
 145 150 155 160
 Gly Thr Arg Lys Lys Leu Arg Leu Ser Lys Glu Gln Ser Ala Leu Leu
 165 170 175
 Glu

<210> 1015
 <211> 61
 <212> PRT
 <213> Pinus radiata

<400> 1015

Met Gly Lys Lys Leu Glu Leu Lys Arg Ile Gln Asn Pro Asn Ser Ser
 1 5 10 15
 Arg Asp Ser Phe Ser Lys Cys Lys Arg Gly Leu Leu Lys Lys Ser Val
 20 25 30
 Lys Leu Phe Val Leu Cys Asp Ala Glu Val Ser Leu Ile Ile Leu Ser
 35 40 45
 Glu Thr Ala Lys Ile Tyr Glu Phe Ala Ser Asn Lys Ser
 50 55 60

<210> 1016
 <211> 51
 <212> PRT
 <213> Pinus radiata

<400> 1016
 Arg Phe Gln Ala Gln Asp Phe Gln Lys Gln Gly Thr Gln Leu Arg Arg
 1 5 10 15
 Lys Met Trp Phe Gln Asn Met Lys Val Lys Leu Val Val Leu Gly Ile
 20 25 30
 Val Phe Val Leu Ile Leu Ile Ile Trp Leu Ser Ile Cys His Gly Phe
 35 40 45
 Lys Cys His
 50

<210> 1017
 <211> 68
 <212> PRT
 <213> Pinus radiata

<400> 1017
 Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val
 1 5 10 15
 Val Leu Ala Glu Tyr Thr Gln Phe Thr Gly Asn Phe Thr Thr Ile Ala
 20 25 30
 Asn Gln Cys Leu Gln Lys Ile Pro Ala Ser Asn Asn Lys Phe Thr Tyr
 35 40 45
 Asn Cys Asp Arg His Thr Phe Asn Tyr Leu Val Glu Asp Gly Ser His
 50 55 60
 Thr Val Leu Leu
 65

<210> 1018
 <211> 155
 <212> PRT
 <213> Pinus radiata

<400> 1018
 Met Asp Arg Glu Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
 1 5 10 15
 Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Thr Ile His Lys Thr Ala
 20 25 30
 Thr Ala Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
 35 40 45
 Asn Asn Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp His
 50 55 60
 Val Ile His Phe Ala Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
 65 70 75 80

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Trp | Val | Val | Ser | Gly | Ser | Ser | Gln | Thr | Lys | Lys | Leu | Gln | Asp | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Phe | Pro | Gly | Ile | Ile | Asn | Gln | Leu | Gly | Pro | Glu | Ser | Phe | Ala | Asn | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Lys | Ile | Ala | Asp | Gln | Phe | Arg | Arg | Pro | Glu | Pro | Asn | Pro | Ala | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gly | Glu | Asp | Asp | Asp | Asp | Asp | Asp | Val | Pro | Glu | Leu | Val | Glu | Gly | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Thr | Phe | Glu | Glu | Ala | Ala | Lys | Lys | Asp | Ser | Ser | | | | | |
| 145 | | | | | 150 | | | | | 155 | | | | | |

<210> 1019
 <211> 249
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Met | Met | Gln | Pro | Ala | Val | Gly | Val | Ala | Pro | Pro | Pro | Pro | Val | Ala | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Ala | Met | Asp | Pro | Gln | Gln | Gln | Gln | Gln | Gln | Trp | Met | Met | Met | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Gln | Met | Gln | Pro | Gln | Gln | Ala | Gln | Pro | Gln | Pro | Pro | Pro | Gln | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Phe | Trp | Pro | Pro | Gln | His | Gln | Pro | Gln | Pro | Gln | His | Ala | Gln | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | Leu | Met | Ala | Gln | Gln | Tyr | Pro | Gln | Gln | Pro | Thr | Ser | Ala | Asp | Glu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ile | Arg | Thr | Leu | Trp | Val | Gly | Asp | Leu | Gln | Tyr | Trp | Met | Asp | Glu | Thr |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Tyr | Leu | His | Gly | Cys | Phe | Gly | Asn | Ser | Gln | Glu | Val | Val | Ser | Val | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ile | Ile | Arg | Asn | Lys | Gln | Thr | Gly | Gln | Ser | Glu | Gly | Tyr | Gly | Phe | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Phe | Ala | Ser | His | Ala | Gly | Ala | Glu | Arg | Ala | Leu | Gln | Thr | Tyr | Asn |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Ala | Gln | Met | Pro | Asn | Thr | Glu | Gln | Phe | Tyr | Arg | Ile | Asn | Trp | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Thr | Phe | Gly | Ile | Gly | Glu | Lys | Arg | Pro | Glu | Ile | Gly | Pro | Asp | Tyr | Pro |
| | | | | 165 | | | | 170 | | | | | | 175 | |
| Ile | Phe | Val | Gly | Asp | Leu | Ala | Ser | Asp | Val | Thr | Asp | Tyr | Leu | Leu | Gln |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Glu | Thr | Phe | Arg | Thr | Arg | Tyr | Gln | Thr | Val | Lys | Gly | Ala | Lys | Val | Val |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Thr | Asp | Arg | Val | Thr | Gly | Arg | Ser | Lys | Gly | Tyr | Gly | Phe | Val | Arg | Phe |
| | 210 | | | | | 215 | | | | | | 220 | | | |
| Gly | Asp | Glu | Asn | Glu | Gln | Val | Arg | Ala | Met | Thr | Glu | Met | Asn | Gly | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Phe | Cys | Ser | Ser | Arg | Pro | Met | Arg | Ile | | | | | | | |
| | | | | 245 | | | | | | | | | | | |

<210> 1020
 <211> 82
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Ala | Ser | Phe | Gly | Leu | Gly | Glu | Arg | Arg | Leu | Leu | Thr | Gly | Pro | Glu | His |

<212> PRT
<213> Pinus radiata

<400> 1030
His Glu Lys Lys Ala Val Leu Trp Asn Met Asp Thr Leu Lys Ala Lys
1 5 10 15
Gly Ser Leu Glu Glu His Ser Phe Leu Ile Thr Asp Val Arg Phe Ser
20 25 30
Pro Asn Ser Thr Arg Leu Ala Thr Ser Ser Phe Asp Arg Thr Val Lys
35 40 45
Val Trp Asp Ala Asp Asn Pro Asn Tyr Thr Leu Arg Thr Phe Ser Gly
50 55 60
His Thr Gly Ser Val Met Ser Leu Asp Phe His Pro Asn Asn Glu Asp
65 70 75 80
Leu Ile Cys Ser Cys Asp Gly Glu Ser Glu Val Arg Tyr Trp Ser Val
85 90 95
Asn

<210> 1031
<211> 117
<212> PRT
<213> Pinus radiata

<400> 1031
Met Gly Tyr Leu Gln Glu Leu Glu Asp Gln Ile Ile Gly Leu Gln Asn
1 5 10 15
Leu Val Lys Arg Asn Glu Arg Leu Tyr Gly Ser Gly Asn Thr Pro Ser
20 25 30
Gly Gly Val Ala Leu Pro Phe Ile Leu Val Gln Thr Arg Pro Gln Ala
35 40 45
Thr Val Glu Ile Glu Ile Ser Glu Asp Met Gln Leu Val His Phe Asp
50 55 60
Phe Asn Ser Thr Pro Phe Glu Leu His Asp Asp Ala Tyr Val Leu Lys
65 70 75 80
Ala Met Gly Phe Cys Glu Lys Pro Phe Thr Asp Gly Met Asp Val Thr
85 90 95
Gly His Asp Ser Phe Ala Asn Gly Thr Gly Phe Gly Glu Asn Asn Met
100 105 110
Thr Ile Thr Asn Met
115

<210> 1032
<211> 146
<212> PRT
<213> Pinus radiata

<400> 1032
Thr Arg Val Leu Leu Ile Asp Asp His Pro Leu Phe Arg Glu Gly Leu
1 5 10 15
Ala Gly Ala Ile Gln Ala Glu Pro Asp Phe Glu Val Val Gly Gln Ala
20 25 30
Gly Thr Val Asp Glu Leu Arg Gly Leu Ala Pro Gln Ile Glu Pro Asp
35 40 45
Val Ala Ile Val Asp Leu Leu Met Pro Ser Val Ser Gly Ile Gly Val
50 55 60
Thr Arg Glu Leu Cys Glu Leu Leu Pro Arg Cys Arg Val Leu Gly Leu

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 50 | | 55 | | 60 | | | | | | | | | | | | | | |
| Lys | Leu | Ile | Arg | Leu | Arg | Ala | Glu | Met | Glu | Pro | Arg | Phe | Ala | Arg | Ser | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Gly | Arg | Lys | Ser | Glu | Leu | Trp | Glu | Glu | Ile | Ala | Glu | Ala | Leu | Arg | Arg | | | |
| | | | | 85 | | | | | 90 | | | | | | 95 | | | |
| Glu | Ser | Val | Val | Arg | Asp | Ala | Gln | Arg | Cys | Arg | Asp | Lys | Trp | Glu | Lys | | | |
| | | | | 100 | | | | 105 | | | | | | 110 | | | | |
| Leu | Thr | Ala | Ser | Tyr | Lys | Glu | Val | Arg | Asp | Gly | Gln | Arg | Asp | Arg | Gln | | | |
| | | | | 115 | | | | 120 | | | | | | 125 | | | | |
| Asp | Phe | Pro | Phe | Phe | Asp | Glu | Leu | Asp | Pro | Leu | Leu | Ser | Leu | Lys | Pro | | | |
| | | | | 130 | | | | 135 | | | | | | 140 | | | | |
| Gln | Lys | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Ala | Thr | Ala | Ala | Thr | Ala | | | |
| 145 | | | | | | | | | | | | | | | 160 | | | |
| Ala | Asn | Phe | Val | Ser | Ala | Glu | Thr | Pro | Ser | Asn | Phe | Pro | Thr | Asp | Asp | | | |
| | | | | 165 | | | | | | 170 | | | | | 175 | | | |
| Glu | Met | Thr | Glu | Glu | Gly | Ser | Pro | Ala | Gly | Lys | Arg | Arg | Lys | Thr | Thr | | | |
| | | | | 180 | | | | | | | | | | 190 | | | | |
| Pro | Arg | Gly | Leu | Ser | Ala | Thr | Asp | Leu | Asp | Ala | Val | Arg | Glu | Leu | Leu | | | |
| | | | | 195 | | | | 200 | | | | | | 205 | | | | |
| Glu | Ser | Leu | Val | Ser | Arg | Gln | Gln | Arg | Phe | Phe | Val | Asp | Leu | Leu | Asp | | | |
| | | | | 210 | | | | 215 | | | | | | 220 | | | | |
| Ser | Met | Glu | Arg | Lys | Glu | Glu | Ile | Arg | Glu | Arg | Ile | Arg | Gln | Glu | Lys | | | |
| 225 | | | | | 230 | | | | | | 235 | | | | 240 | | | |
| Glu | | | | | | | | | | | | | | | | | | |

<210> 1040
 <211> 182
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| <400> 1040 | | | | | | | | | | | | | | | | | | |
| Met | Val | Tyr | Ile | Val | Leu | Leu | Asp | Leu | Cys | Glu | Ser | Val | Gln | Pro | Pro | | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | | |
| Gln | Gly | Ser | Leu | Gln | Glu | Phe | Ser | Asn | Ser | Ile | Gln | Glu | Glu | Gln | Ala | | | |
| | | | | 20 | | | | 25 | | | | | | 30 | | | | |
| Met | Val | Asp | Leu | Met | Pro | Lys | Asp | Ser | Arg | Gln | Thr | Met | Ile | Asn | Asn | | | |
| | | | | 35 | | | | 40 | | | | | | 45 | | | | |
| Thr | Thr | Ile | Phe | Val | Gly | Arg | Leu | Asp | Pro | Asn | Ala | Thr | Asp | Glu | Asp | | | |
| | | | | 50 | | | | 55 | | | | | | 60 | | | | |
| Leu | Arg | Gln | Val | Phe | Gly | Gln | Tyr | Gly | Asp | Leu | Val | Ser | Ile | Lys | Ile | | | |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 | | | |
| Pro | Val | Gly | Lys | Gly | Cys | Gly | Phe | Val | Gln | Phe | Ala | Asn | Arg | Ala | Cys | | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Ala | Glu | Glu | Ala | Leu | Gln | Arg | Leu | His | Gly | Thr | Val | Ile | Arg | Gln | Gln | | | |
| | | | | 100 | | | | 105 | | | | | | 110 | | | | |
| Thr | Ile | Arg | Leu | Ser | Trp | Gly | Arg | Ser | Pro | Ala | Asn | Lys | Gln | Asn | Ser | | | |
| | | | | 115 | | | | 120 | | | | | | 125 | | | | |
| Gln | Pro | Gln | Gly | Gln | Gln | Pro | Gln | Ser | Asp | Pro | Asn | Gln | Trp | Asn | Gly | | | |
| | | | | 130 | | | | 135 | | | | | | 140 | | | | |
| Ala | Tyr | Tyr | Gly | Gln | Gly | Tyr | Glu | Ser | Tyr | Gly | Tyr | Ala | Pro | Pro | Pro | | | |
| 145 | | | | | | | | 150 | | | | | | 160 | | | | |
| Gln | Asp | Pro | Ala | Met | Tyr | Ala | Tyr | Gly | Gly | Tyr | Pro | Gly | Tyr | Gly | Asn | | | |
| | | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Tyr | Asn | Gln | Gln | Val | Ser | | | | | | | | | | | | | |
| | | | | 180 | | | | | | | | | | | | | | |

<210> 1041
 <211> 66
 <212> PRT
 <213> Pinus radiata

<400> 1041
 Thr Ser Tyr His Arg Pro Cys Phe Lys Cys Cys His Gly Gly Cys Val
 1 5 10 15
 Ile Ser Pro Ser Asn Tyr Val Ala His Glu Gly Arg Leu Tyr Cys Arg
 20 25 30
 His His Ser Ser Gln Leu Phe Arg Glu Lys Gly Asn Phe Ser Gln Leu
 35 40 45
 Ser Lys Ala Thr Pro Thr Lys Gly Val Thr Glu Asn Ser Asp Thr Asp
 50 55 60
 Asp Lys
 65

<210> 1042
 <211> 152
 <212> PRT
 <213> Pinus radiata

<400> 1042
 Val Gly Gly Gly Gly Gly Gly Lys Gly Ser Pro Tyr Arg Gly Val Arg
 1 5 10 15
 Met Arg Lys Trp Gly Lys Trp Val Ser Glu Val Arg Glu Pro Asn Lys
 20 25 30
 Arg Ser Arg Ile Trp Leu Gly Ser Tyr Ser Thr Pro Glu Ala Ala Ala
 35 40 45
 Arg Ala Tyr Asp Thr Ala Val Phe Tyr Leu Arg Gly Pro Ser Ala Thr
 50 55 60
 Leu Asn Phe Pro Glu Glu Ala Arg Lys Glu Gln Gln Ser Asp Leu Arg
 65 70 75 80
 Leu Ser Gln Leu Gly Glu Leu Ser Pro Ser Ser Ile Gln Arg Arg Ala
 85 90 95
 Ala Glu Val Gly Ala Ala Val Asp His Ala Met Gln Ala Gly Pro Val
 100 105 110
 Pro Ala Gln Thr Leu Arg Glu Ile Asn Gln Glu Asn Asp Met Lys Asn
 115 120 125
 Ala Leu Ser Ser Lys Leu Ser Glu Gly Asn Asn Phe Lys Ile Glu Ala
 130 135 140
 Lys Asn Asn Met Arg Gln Gln Gly
 145 150

<210> 1043
 <211> 193
 <212> PRT
 <213> Pinus radiata

<400> 1043
 Met Ala Phe Ala Gly Thr Thr Gln Lys Cys Lys Ala Cys Glu Lys Thr
 1 5 10 15
 Val Tyr Leu Val Asp Gln Leu Thr Ala Asp Asn Ser Val Phe His Lys
 20 25 30
 Ser Cys Phe Arg Cys His His Cys Asn Gly Thr Leu Lys Leu Ser Asn
 35 40 45
 Tyr Ser Ser Phe Glu Gly Val Leu Tyr Cys Lys Pro His Phe Asp Gln

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| 50 | | 55 | | 60 | | | | | | | | | | | | | | | |
| Leu | Phe | Lys | Arg | Thr | Gly | Ser | Leu | Asp | Lys | Ser | Phe | Glu | Ala | Ile | Pro | | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | | | |
| Arg | Ala | Ser | Arg | Asn | Asp | Lys | Met | His | Glu | Asn | Glu | Asn | Arg | Thr | Pro | | | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | | | |
| Ser | Arg | Val | Ser | Ala | Leu | Phe | Ser | Gly | Thr | Gln | Asp | Lys | Cys | Val | Ala | | | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | | | |
| Cys | Gly | Lys | Thr | Val | Tyr | Pro | Ile | Glu | Lys | Val | Ala | Val | Asp | Gly | Thr | | | | |
| | 115 | | | | | 120 | | | | | 125 | | | | | | | | |
| Ser | Tyr | His | Arg | Pro | Cys | Phe | Lys | Cys | Cys | His | Gly | Gly | Cys | Val | Ile | | | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | | | |
| Ser | Pro | Ser | Asn | Tyr | Val | Ala | His | Glu | Gly | Arg | Leu | Tyr | Cys | Arg | His | | | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | | | |
| His | Ser | Ser | Gln | Leu | Phe | Arg | Glu | Lys | Gly | Asn | Phe | Ser | Gln | Leu | Ser | | | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | | | |
| Lys | Ala | Thr | Pro | Thr | Lys | Gly | Val | Thr | Glu | Asn | Ser | Asp | Thr | Asp | Asp | | | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | | | |

Lys

<210> 1044
 <211> 121
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| <400> 1044 | | | | | | | | | | | | | | | | | | | |
| Met | Val | Lys | Pro | Leu | Pro | Lys | Gln | Ser | Ser | Pro | Ser | Gly | Ser | Glu | Asn | | | | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | | | | |
| Cys | Gln | Ile | Lys | Ser | Arg | Gln | Phe | Lys | Gly | Ile | Arg | Leu | Arg | Lys | Trp | | | | |
| | | | 20 | | | | | 25 | | | | 30 | | | | | | | |
| Gly | Lys | Trp | Val | Ser | Glu | Ile | Arg | Met | Pro | Asn | Ser | Arg | Ala | Lys | Ile | | | | |
| | | 35 | | | | 40 | | | | | | 45 | | | | | | | |
| Trp | Leu | Gly | Ser | Tyr | Asp | Ser | Pro | Glu | Lys | Ala | Ala | Arg | Ala | Tyr | Asp | | | | |
| | 50 | | | | | 55 | | | | 60 | | | | | | | | | |
| Phe | Ala | Leu | Tyr | Cys | Leu | Arg | Gly | Ser | Lys | Ala | Thr | Phe | Asn | Phe | Pro | | | | |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 | | | | |
| Asp | Ser | Pro | Pro | Glu | Ile | Pro | Cys | Ala | Ser | Asp | Leu | Ser | Pro | Pro | Gln | | | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | | | |
| Ile | Gln | Ala | Ala | Ala | Ala | Arg | Phe | Ala | Thr | Glu | Asp | Phe | Arg | Leu | Pro | | | | |
| | | 100 | | | | | 105 | | | | | 110 | | | | | | | |
| Ser | Glu | Glu | Asp | Ala | Ala | Ser | Ser | Ser | | | | | | | | | | | |
| | 115 | | | | | 120 | | | | | | | | | | | | | |

<210> 1045
 <211> 131
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| <400> 1045 | | | | | | | | | | | | | | | | | | | |
| Met | Glu | Ile | Arg | Leu | Gln | Gln | Glu | Asn | Asp | Gln | Asp | Ile | Ala | Pro | Pro | | | | |
| 1 | | | | 5 | | | | 10 | | | | 15 | | | | | | | |
| His | Glu | Asp | Arg | Val | Ser | Arg | Gln | Phe | Lys | Gly | Val | Arg | Pro | Arg | Lys | | | | |
| | | | 20 | | | | | 25 | | | | 30 | | | | | | | |
| Trp | Gly | Ile | Trp | Val | Ser | Glu | Ile | Arg | Met | Pro | Arg | Ser | Arg | Gln | Lys | | | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | | | |
| Ile | Trp | Leu | Gly | Ser | Tyr | Lys | Lys | Pro | Glu | Gln | Ala | Ala | Arg | Ala | Tyr | | | | |
| | 50 | | | | | 55 | | | | 60 | | | | | | | | | |

Asp Ala Ala Val Tyr Cys Leu Arg Gly Ser Asn Ala Lys Phe Asn Phe
 65 70 75 80
 Pro Asn Ser Val Pro Asp Ile Pro Ser Ala Ser Ser Leu Ser Arg Gln
 85 90 95
 Gln Ile Gln Leu Ala Ala Ala Lys Tyr Ala Leu Asp Gln Ser Pro Ser
 100 105 110
 Ser Pro Pro Ser Leu Asn Asn Asn Lys Glu Glu Pro Ala Ser Pro Ser
 115 120 125
 Gln Ser Ser
 130

<210> 1046
 <211> 102
 <212> PRT
 <213> Pinus radiata

<400> 1046
 Met Thr Gln Gln Thr Thr Ser Pro Thr Val Ser Pro Ala Ala Leu Ala
 1 5 10 15
 Leu Pro Thr Ser Ala Ser Ser Thr Ser Ala Lys Ser Ala Ala Val Pro
 20 25 30
 Val Pro Ala Gln Ala Asn Pro Arg Lys Arg Pro Arg Ser Asp Leu Ser
 35 40 45
 Ala Glu Glu Lys Arg Glu Ala Arg Ala His Arg Asn Arg Ile Ala Ala
 50 55 60
 Gln Asn Ser Arg Asp Lys Arg Lys Gln Gln Phe Thr Ser Leu Glu Gln
 65 70 75 80
 Arg Val Ile Asp Leu Glu Asn Glu Asn Arg Gln Leu Arg Asp Ala Leu
 85 90 95
 Ala Thr Ser Gln Pro Asn
 100

<210> 1047
 <211> 66
 <212> PRT
 <213> Pinus radiata

<400> 1047
 Leu Leu Thr Ile Phe Glu Ala Val Tyr Val His Lys Gly Ile Val Asn
 1 5 10 15
 Ala Ala Lys Val Leu Asn Leu Thr Pro Ser Ala Ile Ser Gln Ser Ile
 20 25 30
 Gln Lys Leu Arg Val Ile Phe Pro Asp Pro Leu Phe Ile Arg Lys Gly
 35 40 45
 Gln Gly Val Thr Pro Thr Ala Phe Ala Met His Leu His Glu Tyr Ile
 50 55 60
 Ser Gln
 65

<210> 1048
 <211> 106
 <212> PRT
 <213> Pinus radiata

<400> 1048
 Met Lys Gly Pro Gln Gly Ile Ser Asn Ala Gln Asn Thr Cys Thr Lys
 1 5 10 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Arg | Met | Pro | Thr | Ser | Glu | Asn | Leu | Ile | Pro | Ile | Arg | Leu | Asp | Ile |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ile | Asp | Gly | Leu | Arg | Leu | Lys | Asp | Ala | Phe | Thr | Trp | Asn | Val | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Pro | Asp | Ser | Glu | Ile | His | Leu | Phe | Ala | Arg | Arg | Thr | Ile | Lys | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Lys | Tyr | Pro | Gly | Ser | Phe | Ile | Thr | Pro | Val | Val | Gln | Ser | Ile | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | Gln | Leu | Ala | Glu | Phe | Arg | Ser | Phe | Glu | Gly | Gln | Glu | Met | Asn | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gly | Gln | Lys | Val | Leu | Pro | Leu | Lys | Leu | Pro | | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 1049

<211> 134

<212> PRT

<213> Pinus radiata

<400> 1049

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Gly | Ser | Gln | Asn | Gly | Ser | Ser | Asn | Ala | Pro | Pro | Pro | Phe | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Lys | Thr | Tyr | Asp | Met | Val | Asp | Asp | Pro | Ala | Thr | Asn | Ala | Met | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Trp | Ser | Pro | Gly | Ser | Asn | Ser | Phe | Ile | Val | Trp | Asn | Pro | Thr | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Ser | Arg | Val | Leu | Leu | Pro | Thr | Tyr | Phe | Lys | His | Ser | Asn | Phe | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Phe | Val | Arg | Gln | Leu | Asn | Thr | Tyr | Gly | Phe | His | Lys | Ile | Asp | Pro |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 |
| Glu | Arg | Trp | Glu | Phe | Ala | Asn | Glu | Gly | Phe | Leu | Arg | Gly | His | Arg | His |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Leu | Lys | Asn | Ile | His | Arg | Arg | Lys | Pro | Val | His | Ser | His | Ser | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gln | Lys | Gly | Glu | Ser | Leu | Ser | Gly | Gly | Ser | Cys | Val | Glu | Ile | Lys | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Glu | Asp | Glu | Thr | Glu | | | | | | | | | | |
| | | | 130 | | | | | | | | | | | | |

<210> 1050

<211> 220

<212> PRT

<213> Pinus radiata

<400> 1050

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Leu | Tyr | Glu | Leu | Leu | His | Val | Gln | Gln | Ile | Gln | Gln | Ile | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Gln | Gln | Phe | Gln | Leu | Gln | Gln | Gln | Gln | Ile | Ala | Ala | Ala | Ala | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ile | His | His | Met | Gly | Arg | Asn | Pro | Leu | Gly | Pro | Arg | Asp | Gln | Pro | Met |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Leu | His | Gly | Ser | Ser | Leu | Ser | Lys | Pro | Ala | Lys | Leu | Tyr | Arg | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Arg | Gln | Arg | His | Trp | Gly | Lys | Trp | Val | Ala | Glu | Ile | Arg | Leu | Pro |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 |
| Arg | Asn | Arg | Thr | Arg | Leu | Trp | Leu | Gly | Thr | Phe | Asp | Thr | Ala | Glu | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Ala | Met | Ala | Tyr | Asp | Lys | Ala | Ala | Tyr | Arg | Leu | Arg | Gly | Asp | Tyr |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | 325 | | | | | 330 | | | | 335 | | | |
| Lys | Ser | Val | Ser | Ile | Asn | Glu | Phe | Leu | Lys | Pro | Ala | Asp | Gly | Glu | Arg | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Tyr | Phe | Thr | Pro | Ser | Gly | Thr | Arg | Gly | Arg | Gly | Arg | Gly | Arg | Gly | Arg | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Gly | Arg | Gly | Asp | Gly | Val | Ser | Thr | Arg | Gly | Gly | Phe | Gly | Gly | Arg | Tyr | |
| | 370 | | | | 375 | | | | | | 380 | | | | | |
| Ser | Asp | Ala | Asp | Gln | Val | Ala | Ala | Pro | Cys | Ile | Glu | | | | | |
| 385 | | | | 390 | | | | | 395 | | | | | | | |

<210> 1056
 <211> 120
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Thr | Trp | Ala | Gln | Glu | Glu | Glu | Lys | Ser | Pro | Arg | Ala | Ile | Gly | Gly | Glu | |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | | |
| Lys | Gly | Gly | Arg | Gly | Leu | Arg | Gln | Phe | Ser | Met | Lys | Val | Cys | Gln | Lys | |
| | | | 20 | | | | 25 | | | | | 30 | | | | |
| Val | Glu | Ser | Lys | Gly | Arg | Thr | Thr | Tyr | Asn | Glu | Val | Ala | Asp | Glu | Leu | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Val | Ala | Glu | Tyr | Ala | Asn | Pro | Asn | Ser | Ala | Leu | Ile | Ser | Pro | Asp | Gln | |
| | 50 | | | | 55 | | | | | 60 | | | | | | |
| Gln | Gln | Tyr | Asp | Glu | Lys | Asn | Ile | Arg | Arg | Arg | Val | Tyr | Asp | Ala | Leu | |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | | |
| Asn | Val | Leu | Met | Ala | Met | Asp | Ile | Ile | Ser | Lys | Asp | Lys | Lys | Glu | Ile | |
| | | | 85 | | | | | 90 | | | | | 95 | | | |
| Gln | Trp | Lys | Gly | Leu | Pro | Ser | Thr | Ser | Pro | Asn | Asp | Leu | Glu | Asp | Leu | |
| | | 100 | | | | | 105 | | | | | 110 | | | | |
| Lys | Ala | Lys | Arg | Met | Gly | Leu | Arg | | | | | | | | | |
| | 115 | | | | | 120 | | | | | | | | | | |

<210> 1057
 <211> 78
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Pro | Met | Lys | Leu | Tyr | Arg | Gly | Val | Arg | Gln | Arg | His | Trp | Gly | Lys | Trp | |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | | |
| Val | Ala | Glu | Ile | Arg | Leu | Pro | Arg | Asn | Arg | Thr | Arg | Leu | Trp | Leu | Gly | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |
| Thr | Phe | Asp | Thr | Ala | Glu | Asp | Ala | Leu | Ala | Tyr | Asp | His | Glu | Ala | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Tyr | Lys | Leu | Arg | Gly | Glu | Asn | Ala | Arg | Leu | Asn | Phe | Pro | His | Leu | Phe | |
| | 50 | | | | 55 | | | | | 60 | | | | | | |
| Leu | Asn | Lys | Gly | Ser | Thr | Ser | Pro | Lys | Ala | Cys | Ser | Val | Ala | | | |
| 65 | | | | 70 | | | | | 75 | | | | | | | |

<210> 1058
 <211> 171
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | | | | | | | | | | | | |
| Ser | Phe | Ser | Cys | Arg | Ile | Arg | His | Gln | Thr | Glu | Pro | Thr | Leu | Ile | Leu | |

115 120 125
 Lys Pro Ile Val Gln Val Met Gly Gly Gln Lys Val Pro Val Val Gly
 130 135 140
 Val
 145

<210> 1063
 <211> 236
 <212> PRT
 <213> Pinus radiata

<400> 1063
 Met Ser Ser Pro Gln Ser Asn Lys Trp Leu Ser Tyr Phe Asp Glu Pro
 1 5 10 15
 Leu Leu Asp Asp Val Gly Val Gly Gln Pro Ala Asn Pro Phe Phe Trp
 20 25 30
 Cys Gly Gln Gly Ile Asn Asp Gln Pro Asp Val Ser Val Glu Ile Asp
 35 40 45
 Gly Pro Asn Lys Asp Met Asp Glu Gln Asp Lys Leu Cys Pro Arg Lys
 50 55 60
 Arg Ser Arg Glu Glu Ser Ser Gly Gly Pro Gly Ser Lys Ala Cys Arg
 65 70 75 80
 Glu Lys Met Arg Arg Asp Arg Leu Asn Asp Arg Phe Met Glu Leu Ser
 85 90 95
 Ser Val Leu Glu Pro Gly Arg Pro Pro Lys Thr Ala Asp Lys Ala Thr
 100 105 110
 Ile Leu Ser Asp Ala Ala Arg Val Met Thr Gln Leu Arg Thr Glu Ala
 115 120 125
 Gln Asn Leu Lys Ala Glu Asn Glu Arg Leu Gln Glu Ala Ile Lys Asp
 130 135 140
 Leu Lys Ala Glu Lys Asn Glu Leu Arg Asp Glu Lys Leu Arg Met Lys
 145 150 155 160
 Ala Glu Lys Glu Lys Leu Asp Gln Gln Val Lys Ala Met Ala Leu Pro
 165 170 175
 Thr Gly Phe Val Pro His Pro Ala Ala Phe His Ala Ala Ala Phe
 180 185 190
 Ala Ala Gln Ser Gln Ala Ala Ala Asn Lys Thr Met Pro Val Pro Gly
 195 200 205
 Tyr Pro Gly Met Ala Met Trp Gln Trp Met Pro Pro Ala Val Val Asp
 210 215 220
 Thr Ser Gln Asp His Val Leu Arg Pro Pro Val Ala
 225 230 235

<210> 1064
 <211> 145
 <212> PRT
 <213> Pinus radiata

<400> 1064
 Met Gly Ser Arg Thr Met Leu Ser Ser Asn Gly Gly Arg Thr Pro Gln
 1 5 10 15
 Phe Gln Pro Leu Val Arg Gln Asn Ser Leu Tyr Asn Leu Thr Leu Glu
 20 25 30
 Glu Val Gln Asn Gln Leu Gly Asp Ala Ser Lys Pro Leu Ser Ser Met
 35 40 45
 Asn Met Asp Glu Leu Leu Lys Asn Ile Trp Thr Gln Glu Glu Ser Gln
 50 55 60

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | 70 | | | | | 75 | | | | 80 |
| Lys | Leu | Asn | Gln | Arg | Phe | Tyr | Ala | Leu | Arg | Ala | Val | Val | Pro |
| | | | | 85 | | | | | 90 | | | | 95 |
| Ser | Lys | Met | Asp | Lys | Ala | Ser | Leu | Leu | Gly | Asp | Ala | Ile | Ser |
| | | | 100 | | | | 105 | | | | | | 110 |

<210> 1067
 <211> 73
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 1067 | | | | | | | | | | | | | |
| Leu | Tyr | Ala | Glu | Glu | Ser | Ser | Thr | Val | Thr | His | Leu | Gln | Tyr |
| 1 | | | 5 | | | | | | 10 | | | | 15 |
| Ser | Ile | Leu | Glu | Asn | Asp | Leu | Arg | Ser | Lys | Leu | Lys | Asp | Asn |
| | | | 20 | | | | 25 | | | | | 30 | |
| Gln | Pro | Gln | Asn | Ser | Gly | Lys | Lys | Arg | Arg | Tyr | Arg | Gly | Val |
| | | 35 | | | | 40 | | | | | 45 | | |
| Arg | Pro | Trp | Gly | Lys | Trp | Ala | Ala | Glu | Ile | Arg | Asp | Pro | Lys |
| | 50 | | | | 55 | | | | | | 60 | | |
| Ala | Arg | Val | Trp | Leu | Gly | Thr | Phe | Asp | | | | | |
| 65 | | | | | 70 | | | | | | | | |

<210> 1068
 <211> 203
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 1068 | | | | | | | | | | | | | |
| Asn | Met | Ala | Lys | His | Thr | Val | Cys | Ala | Ser | Phe | Leu | Asn | Glu |
| 1 | | | 5 | | | | | | 10 | | | | 15 |
| Phe | Ile | Cys | Pro | Pro | Tyr | Glu | Asp | Gly | Ile | Gly | Leu | Glu | Trp |
| | | | 20 | | | | 25 | | | | | 30 | |
| Asp | Phe | Val | Glu | Asp | Ser | Phe | Ala | Ala | Thr | Gly | Ser | Ser | Asn |
| | | 35 | | | | 40 | | | | | 45 | | |
| Ser | Leu | Ala | Asp | Leu | Ser | Lys | Asp | Lys | Ile | Asp | Asp | Asn | Arg |
| | 50 | | | | 55 | | | | | 60 | | | |
| Lys | Lys | Gln | Asn | Pro | Thr | Asp | Glu | Ala | Ile | Ile | Pro | Glu | Ile |
| 65 | | | | | 70 | | | | 75 | | | | 80 |
| Ile | Lys | Glu | Thr | Pro | Arg | Ser | Gln | Arg | Ala | Val | Pro | Gly | Arg |
| | | | 85 | | | | 90 | | | | | 95 | |
| Ser | Lys | Arg | Arg | Arg | Ser | Ser | Gly | Ala | Pro | Ile | Arg | Gly | Trp |
| | | | 100 | | | | 105 | | | | | 110 | |
| Ser | Glu | Asp | Tyr | Ala | Leu | Gln | Asn | Glu | Gly | Gly | Met | Lys | Thr |
| | 115 | | | | | 120 | | | | | 125 | | |
| Gly | Ala | Asp | Ala | Ile | Asn | His | Tyr | Gln | Ser | Ser | Ala | Pro | Gln |
| | 130 | | | | 135 | | | | | 140 | | | |
| Pro | Arg | Arg | Cys | Thr | His | Cys | Leu | Ser | Gln | Arg | Thr | Pro | Gln |
| | 145 | | | | 150 | | | | 155 | | | | 160 |
| Leu | Gly | Pro | Leu | Gly | Pro | Lys | Thr | Leu | Cys | Asn | Ala | Cys | Gly |
| | | | 165 | | | | 170 | | | | | 175 | |
| Phe | Lys | Ser | Gly | Arg | Leu | Phe | Pro | Glu | Tyr | Arg | Pro | Ala | Lys |
| | | | 180 | | | | 185 | | | | | 190 | |
| Thr | Phe | Ile | Arg | Tyr | Ile | His | Ser | Asn | Ser | His | | | |
| | | | 195 | | | | 200 | | | | | | |

<210> 1069

<211> 190
 <212> PRT
 <213> Pinus radiata

<400> 1069

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Asn | Ala | Ala | Arg | Arg | Pro | His | Asp | Val | Leu | Leu | Lys | Leu | Glu | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Ser | Ser | Gln | Thr | Thr | Leu | Glu | Ser | Leu | Gln | Arg | Leu | Ile | Val | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Lys | Cys | Leu | Leu | Phe | Gly | Lys | Lys | Val | Gly | Ile | Arg | Ile | Asp | Gly |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Lys | Lys | Thr | Ala | Asn | Thr | Glu | Lys | Val | Asn | Glu | Arg | Asn | Thr | Ile | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Ile | Ile | Phe | Gly | Ala | Leu | Thr | Phe | Thr | Arg | Asn | Arg | Pro | His | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Leu | Ser | Lys | Asn | Gly | Ser | Ile | Ala | Asp | Thr | Arg | Arg | Asn | Ile | Cys | Gly |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ala | Pro | Gln | Glu | Asp | Gly | Thr | Ile | Cys | Thr | Ala | Ile | Pro | Leu | Lys | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Lys | Arg | Cys | Pro | Asp | His | Lys | Gly | Gln | Lys | Gly | Gln | Lys | Glu | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asn | Leu | Ser | Lys | Ile | Asn | Ile | Ser | Ala | Asn | Val | Glu | Ser | Arg | Asn | Gln |
| | 130 | | | | | 135 | | | | | | 140 | | | |
| Gly | Val | Gly | Glu | His | Glu | Asn | Glu | Tyr | Arg | Tyr | Cys | Gly | Val | Leu | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Lys | Asp | Gly | Ser | Thr | Cys | Lys | Ile | Ile | Pro | Asp | Lys | Gly | Arg | Lys | Arg |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Cys | Asn | Ile | His | Lys | Gly | Met | Arg | Ile | Pro | Gly | Gln | Ala | Lys | | |
| | | 180 | | | | | | 185 | | | | | 190 | | |

<210> 1070
 <211> 81
 <212> PRT
 <213> Pinus radiata

<400> 1070

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Thr | Ser | Asn | Pro | Phe | Asp | Leu | Leu | Gly | Asp | Asp | Asp | Asn | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Val | Ser | Gln | Leu | Val | Phe | Val | Pro | Gln | Glu | Lys | Pro | Thr | Val | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Ala | Ser | Gln | Pro | Ala | Gln | Thr | Ala | Thr | Ala | Lys | Leu | Pro | Ser | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Leu | Pro | Pro | Ala | Gln | Ala | Val | Arg | Glu | Ser | Arg | Asn | Gly | Val | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Gly | Gly | Arg | Gly | Gly | Arg | Gly | Gly | Asp | Arg | Asn | Gln | Asp | Val | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Tyr | | | | | | | | | | | | | | | |

<210> 1071
 <211> 154
 <212> PRT
 <213> Pinus radiata

<400> 1071

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Arg | Glu | Lys | Leu | Met | Lys | Met | Ala | Gly | Ala | Val | Arg | Thr | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Thr Ile His Arg Thr Thr
 20 25 30
 Thr Thr Asp Asp Lys Lys Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
 35 40 45
 Asn Ala Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Leu Glu Asp Ser
 50 55 60
 Val Ile His Phe Gln Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
 65 70 75 80
 Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Arg Leu Gln Asp Leu
 85 90 95
 Leu Pro Gly Ile Ile Asn Gln Leu Gly Pro Asp Ser Phe Ala Asn Leu
 100 105 110
 Arg Lys Leu Ala Gln Gln Phe Gln Lys Glu Val Pro His Pro Ala Val
 115 120 125
 Glu Glu Asp Asp Asp Val Pro Glu Leu Val Glu Gly Glu Thr Phe
 130 135 140
 Glu Glu Ala Ala Lys Gln Glu Ser Ala Ala
 145 150

<210> 1072
 <211> 63
 <212> PRT
 <213> Pinus radiata

<400> 1072
 Met Pro His Gln His Gln His Gln Glu Arg Phe Pro Ser Gln Glu Gly
 1 5 10 15
 Ile Ser Trp Lys Arg Asp Asp Glu Leu Pro Gln Pro Gln Asn Pro Pro
 20 25 30
 Lys Lys Lys Arg Tyr Arg Gly Val Arg Gln Arg Pro Trp Gly Lys Trp
 35 40 45
 Ala Ala Glu Ile Arg Asp Pro Lys Lys Ala Ala Arg Val Trp Leu
 50 55 60

<210> 1073
 <211> 331
 <212> PRT
 <213> Pinus radiata

<400> 1073
 Met Gly Gln Ile Gly Gly Pro His Gly Tyr Pro Asn Ser Ser Pro Ser
 1 5 10 15
 Ala Gln Asp Ala Leu Tyr Glu Glu Leu Trp His Ala Cys Ala Gly Pro
 20 25 30
 Leu Val Thr Leu Pro Arg Ile Gly Glu Arg Val Phe Tyr Phe Pro Gln
 35 40 45
 Gly His Met Glu Gln Val Glu Ala Ser Thr Asn Gln Gly Ala Asp Gln
 50 55 60
 His Met Pro Leu Phe Asn Leu Pro Tyr Lys Ile Leu Cys Arg Val Ile
 65 70 75 80
 Asn Val Gln Leu Lys Ala Glu Pro Asp Thr Asp Glu Val Phe Ser Gln
 85 90 95
 Ile Thr Leu Leu Pro Glu Ala Glu Gln Asp Glu Ser Ser Val Glu Lys
 100 105 110
 Glu Pro Leu Thr Pro Leu Pro Pro Lys Pro Leu Val Tyr Ser Phe Cys
 115 120 125
 Lys Thr Leu Thr Ala Ser Asp Thr Ser Thr His Gly Gly Phe Ser Val

Glu Ser Gly Gly Gly His Met Gly Gly Ser Asp Phe Ser Val Lys Glu
 20 25 30
 Gln Asp Arg Phe Leu Pro Ile Ala Asn Val Gly Arg
 35 40

<210> 1076
 <211> 282
 <212> PRT
 <213> Pinus radiata

<400> 1076
 Met Pro Met Leu Ala Glu Thr Tyr Arg Asp Ser Phe Glu Thr Thr Ser
 1 5 10 15
 Gly Gly Ser Ser Val Asp Leu Val Gly Met Ala Leu Pro Gly Leu Ala
 20 25 30
 Pro Asn Leu Ser Ser Ala Ser Val Ser Ala Ser Ala Ser Glu Asp Ser
 35 40 45
 Ala Lys Lys Ile Arg Lys Pro Tyr Thr Ile Thr Lys Ser Arg Glu Ser
 50 55 60
 Trp Ser Glu Gln Glu His Asp Lys Phe Leu Glu Ala Leu Gln Leu Phe
 65 70 75 80
 Asp Arg Asp Trp Lys Lys Ile Glu Ala Phe Val Gly Ser Lys Thr Val
 85 90 95
 Ile Gln Ile Arg Ser His Ala Gln Lys Tyr Phe Leu Lys Val Gln Lys
 100 105 110
 Asn Gly Thr Arg Glu His Val Pro Pro Arg Pro Lys Arg Lys Ala
 115 120 125
 Ser His Pro Tyr Pro Gln Lys Ala Ser Lys Asn Val Pro Val Ser Gln
 130 135 140
 Gln Val Ser Thr Ala Phe Pro Thr Ala Ala Thr Gln Leu Asp Ser Gly
 145 150 155 160
 Tyr Tyr Pro Arg Ala Glu Ser Ser Ser Ile Leu Thr Lys Ser Gly Ser
 165 170 175
 Ser Cys Pro Thr Val Ser Ser Trp Val His His Thr Ile Pro Ser Ile
 180 185 190
 Asp Ala Ser Phe Val Glu Lys Asp Asp Gly Gly Pro Pro Gly Ile Glu
 195 200 205
 Thr Gly Asn Asn Cys Ser Ser Gly Ser Thr Glu Ser Ser Pro Pro Thr
 210 215 220
 Trp Pro Pro Cys Ser Glu Ile Pro Glu Lys Val Lys Pro Asp Phe Ser
 225 230 235 240
 Gln Val Tyr Lys Phe Ile Gly Ser Val Phe Asp Pro Ser Thr Thr Asp
 245 250 255
 His Leu Lys Lys Leu Lys Glu Trp Ile Gln Leu Ile Leu Lys Leu Cys
 260 265 270
 Cys Thr His Glu Glu Pro Phe His Asn Leu
 275 280

<210> 1077
 <211> 104
 <212> PRT
 <213> Pinus radiata

<400> 1077
 Met Gly Arg Ser Phe Ser Cys Trp Ser Cys Ser Lys Asp Asn Gly His
 1 5 10 15
 Glu Arg Leu Asn Arg Gly Ser Trp Ser Ala Glu Glu Asp Thr Ile Leu

20 25 30
 Ser Glu His Ile Lys Thr His Gly Val Gly Arg Trp Thr Ser Leu Pro
 35 40 45
 Lys Lys Ala Gly Leu Lys Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp
 50 55 60
 Phe Asn Tyr Leu Arg Ser Asp Ile Lys His Gly Asn Ile Ser Pro Glu
 65 70 75 80
 Glu Glu Glu Leu Leu Ile Arg Leu His Arg Leu Leu Gly Asn Arg Trp
 85 90 95
 Ser Leu Ile Ala Gly Arg Leu Pro
 100

<210> 1078
 <211> 93
 <212> PRT
 <213> Pinus radiata

<400> 1078
 Met Asp Arg Asp Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
 1 5 10 15
 Gly Lys Gly Thr Val Arg Arg Lys Lys Lys Ala Val His Arg Ala Thr
 20 25 30
 Thr Thr Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Leu Gly Val
 35 40 45
 Asn Thr Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Glu Met
 50 55 60
 Val Ile His Phe Ile Asn Pro Lys Val Gln Ala Ser Ile Asn Ala Asn
 65 70 75 80
 Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Asn Leu
 85 90

<210> 1079
 <211> 118
 <212> PRT
 <213> Pinus radiata

<400> 1079
 Met Asp Arg Asp Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
 1 5 10 15
 Gly Lys Gly Thr Val Arg Arg Lys Lys Lys Ala Val His Arg Ala Thr
 20 25 30
 Thr Thr Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Leu Gly Val
 35 40 45
 Asn Thr Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Glu Met
 50 55 60
 Val Ile His Phe Ile Asn Pro Lys Val Gln Ala Ser Ile Asn Ala Asn
 65 70 75 80
 Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Asn Leu Gln Asp Leu
 85 90 95
 Leu Pro Gly Ile Ile Asn Gln Leu Gly Pro Asp Asn Leu Ile Asn Leu
 100 105 110
 Lys Lys Ile Ala Gln Gln
 115

<210> 1080
 <211> 191
 <212> PRT

| | | |
|---|-----|-----|
| 115 | 120 | 125 |
| <210> 1085 | | |
| <211> 139 | | |
| <212> PRT | | |
| <213> Pinus radiata | | |
| <400> 1085 | | |
| Arg Ala Pro Cys Cys Glu Lys Thr His Thr Asn Lys Gly Ala Trp Ser | | |
| 1 5 10 15 | | |
| Lys Asp Glu Asp Glu Ala Leu Val Ala Tyr Ile Gln Ala His Gly Glu | | |
| 20 25 30 | | |
| Gly Ser Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Gln Arg Cys Gly | | |
| 35 40 45 | | |
| Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys | | |
| 50 55 60 | | |
| Arg Gly Asn Phe Ser Pro Glu Glu Asp Glu Ile Ile Ile Lys Leu His | | |
| 65 70 75 80 | | |
| Ser Met Leu Gly Asn Lys Trp Ser Leu Ile Ala Ser Lys Leu Pro Gly | | |
| 85 90 95 | | |
| Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Ile Lys Arg | | |
| 100 105 110 | | |
| Lys Met Leu Glu Arg Gly Leu Asp Pro Ser Thr His Leu Pro Leu Met | | |
| 115 120 125 | | |
| Ser Asp His Gly Ser Phe Glu Ser Ser Ser Lys | | |
| 130 135 | | |

| | | |
|---|--|--|
| <210> 1086 | | |
| <211> 189 | | |
| <212> PRT | | |
| <213> Pinus radiata | | |
| <400> 1086 | | |
| Lys Val Val Pro Pro Leu Asp Phe Thr Gln Gln Pro Pro Ala Gln Glu | | |
| 1 5 10 15 | | |
| Leu Thr Ala Arg Asp Leu His Asp Asn Glu Trp Lys Phe Arg His Ile | | |
| 20 25 30 | | |
| Phe Arg Gly Gln Pro Lys Arg His Leu Leu Thr Thr Gly Trp Ser Val | | |
| 35 40 45 | | |
| Phe Val Ser Ala Lys Arg Leu Ala Ala Gly Asp Ser Val Leu Phe Ile | | |
| 50 55 60 | | |
| Trp Asn Glu Lys Gly Gln Leu Leu Leu Gly Ile Arg Arg Ala Asn Arg | | |
| 65 70 75 80 | | |
| Pro Gln Ala Val Met Pro Ser Leu Val Leu Ser Ser Asp Ser Met His | | |
| 85 90 95 | | |
| Ile Gly Leu Leu Ala Ala Ala Ala His Ala Ala Ala Thr Asn Ser Arg | | |
| 100 105 110 | | |
| Phe Thr Ile Phe Tyr Asn Pro Arg Ala Ser Pro Ser Glu Phe Val Ile | | |
| 115 120 125 | | |
| Pro Leu Ala Lys Tyr Val Lys Ala Val Tyr His Thr Arg Val Ser Ile | | |
| 130 135 140 | | |
| Gly Met Arg Phe Arg Met Leu Phe Glu Thr Glu Glu Ser Ser Val Arg | | |
| 145 150 155 160 | | |
| Arg Tyr Met Gly Thr Ile Thr Gly Ile Ser Asp Leu Asp Gln Val Arg | | |
| 165 170 175 | | |
| Trp Pro Asn Ser His Trp Arg Ser Val Lys Val Gly Trp | | |
| 180 185 | | |

<210> 1087
 <211> 132
 <212> PRT
 <213> Pinus radiata

<400> 1087

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Glu | Phe | Ala | Asn | Asp | Cys | Phe | Arg | Lys | Gly | Glu | Lys | Gln | Leu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Cys | Glu | Ile | His | Arg | Arg | Lys | Ser | Val | Gln | Gln | Ser | Ser | Ala | Ala | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ser | Arg | Cys | Val | Ser | Pro | Val | Asn | Ser | Val | Glu | Glu | Gln | Ala | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Ser | Thr | Ser | Ser | Pro | Val | Ser | Ser | His | Ala | Glu | Ala | Ala | Leu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asn | Cys | Gly | Gln | Asn | Ser | Thr | Ser | Gly | Leu | His | Gly | Glu | Asn | Glu | Lys |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Leu | Arg | Lys | Asp | Asn | Leu | Leu | Leu | Met | Ser | Glu | Leu | Ala | Gln | Met | Lys |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Lys | Gln | Cys | Asn | Asp | Leu | Leu | Leu | Phe | Leu | Ser | Lys | Cys | Val | Asn | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Thr | Pro | Asp | Asn | Leu | Ser | Asn | Ile | Leu | Ile | Ala | Ala | Ser | Gln | Thr | Asn |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| Cys | Arg | Asp | Glu | | | | | | | | | | | | |
| | | | 130 | | | | | | | | | | | | |

<210> 1088
 <211> 214
 <212> PRT
 <213> Pinus radiata

<400> 1088

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Lys | Trp | Gly | Val | Pro | Asp | Asn | Leu | Tyr | Gly | Ala | Gln | Glu | Asp | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Gly | Ser | Ser | Val | Lys | Gln | Lys | Asn | Leu | Lys | Asp | Gly | Asp | Gln | Phe |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Thr | Ser | Ser | Asp | Glu | Ala | Asp | Ser | Glu | Val | Asn | Glu | Phe | Asn | Ile | Met |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Arg | Ser | Asn | Ser | Gly | Val | Gly | Tyr | Glu | Asp | Asn | Lys | Arg | Ser | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Gln | Gly | Asp | Gly | Asn | Gln | Tyr | Arg | Ser | Arg | His | Ser | Arg | Ser | Ile |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ser | Met | Asp | Ser | Ile | Met | Ser | Lys | Met | His | Asn | Phe | Ser | Glu | Asp | Leu |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Glu | Gln | Glu | Pro | Ser | Gln | Gly | Arg | Asn | Val | Arg | His | Ser | His | Ser | Asn |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Met | Asp | Gly | Ser | Thr | Asn | Phe | Asn | Val | Glu | Phe | Gly | Asn | Gly | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Phe | Ser | Ala | Ser | Glu | Met | Lys | Lys | Ile | Met | Ala | Ser | Glu | Lys | Leu | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Glu | Leu | Ala | Thr | Val | Asp | Pro | Lys | Arg | Val | Lys | Arg | Ile | Leu | Ala | Asn |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Arg | Gln | Ser | Ala | Ala | Arg | Ser | Lys | Glu | Arg | Lys | Met | Arg | Tyr | Ile | Ser |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Glu | Leu | Glu | Arg | Lys | Val | Gln | Thr | Leu | Gln | Thr | Glu | Ala | Thr | Thr | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ser | Ala | Gln | Leu | Thr | Leu | Leu | Gln | Arg | Asp | Gln | Leu | Asp | Trp | Ala | Val |

195
Arg Thr Thr Ser Ser Ser
210

200

205

<210> 1089
<211> 97
<212> PRT
<213> Pinus radiata

<400> 1089
Met Ala Asp Gly His Gln Phe Asn Asn Ile Leu Leu Val Gly Arg Gly
1 5 10 15
Gly Thr Asn Pro Gly Gln Leu Arg Ile His Ser Gly Gly Ile Val Trp
20 25 30
Arg Arg Gln Gly Gly Lys Val Asp Val Ala Lys Asn Glu Val
35 40 45
Lys Ser Leu Ser Trp Thr Arg Val Pro Arg Gly Tyr Gln Leu Gly Val
50 55 60
Lys Leu Lys Ala Gly Leu Asn Ile Lys Leu Ala Gly Phe Arg Glu Gln
65 70 75 80
Asp Val Gly Asn Leu Thr Asn Phe Met Thr Asn Thr Ile Gly Leu Ala
85 90 95
Pro

<210> 1090
<211> 108
<212> PRT
<213> Pinus radiata

<400> 1090
Met Gly Asp His Ser Gly Gly Glu Ser Ser Pro His Ser Asp Ile Glu
1 5 10 15
Ser Thr Gly Ile His Asn Asn Gly Ser Ser Ser Ser Ser Gln Ser Ile
20 25 30
Ile Arg Glu Gln Asp Arg Leu Leu Pro Ile Ala Asn Val Gly Arg Ile
35 40 45
Met Lys Lys Thr Leu Pro Thr Asn Ala Lys Ile Ser Lys Glu Ala Lys
50 55 60
Glu Ile Met Gln Glu Cys Val Ser Glu Phe Ile Ser Phe Val Thr Gly
65 70 75 80
Glu Ala Ser Asp Lys Cys His Lys Glu Lys Arg Lys Thr Ile Asn Gly
85 90 95
Asp Asp Ile Leu Trp Ala Met Thr Thr Leu Gly Phe
100 105

<210> 1091
<211> 90
<212> PRT
<213> Pinus radiata

<400> 1091
Arg Asn Ile Gln Arg Asn Glu Tyr His Asn Leu Phe Asn Phe Ile Ser
1 5 10 15
Ser Lys Gly Leu Lys Ile Met Asn Leu Gly Asp Ala His Gly Thr Ser
20 25 30
Gly Val Ala Ala Val Leu Glu Asn Ser Asp Asp Glu Ala Val Asp Pro

Arg Lys Gly Glu
145

<210> 1094
<211> 107
<212> PRT
<213> Pinus radiata

<400> 1094
Arg Gln Leu Ile Arg Glu Leu Glu Gln Met Phe Asn Ile Glu Gly Glu
1 5 10 15
Leu Glu Asp Pro Ser Lys Gly Trp Gln Val Val Tyr Thr Asp Asn Glu
20 25 30
Gly Asp Met Met Leu Val Gly Asp Asp Pro Trp Gln Glu Phe Cys Ser
35 40 45
Ile Val Arg Lys Ile Tyr Ile Tyr Thr Arg Glu Glu Val Glu Lys Met
50 55 60
Thr Pro Gln Thr Pro Ser Ala Asn Ser Arg Asp Val Gln Lys Ser Leu
65 70 75 80
Ser Gln Glu Glu Thr Ser Arg Ser Ser Asp Arg Gln Asp Ser Ser Ile
85 90 95
Ala Gly Val Thr Ala Glu Arg Ser Ser Asp Ala
100 105

<210> 1095
<211> 275
<212> PRT
<213> Pinus radiata

<400> 1095
Met Ser Asn Gly Arg Leu Cys Glu Asp Leu Asp Arg Ile Lys Gly Pro
1 5 10 15
Trp Ser Pro Glu Glu Asp Ala Ser Leu Gln Arg Leu Val Gln Lys Tyr
20 25 30
Gly Pro Arg Asn Trp Thr Leu Ile Ser Lys Gly Ile Pro Gly Arg Ser
35 40 45
Gly Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu Ser Pro Gln Val
50 55 60
Glu His Arg Pro Phe Thr Pro Ser Glu Asp Ala Ala Ile Leu Gln Ala
65 70 75 80
His Ala Gln His Gly Asn Lys Trp Ala Thr Ile Ala Arg Ala Leu Pro
85 90 95
Gly Arg Thr Asp Asn Ala Ile Lys Asn His Trp Asn Ser Thr Leu Arg
100 105 110
Arg Arg Cys Arg Asp Pro Lys Lys Gly Ile Val Val His Leu Asp Asp
115 120 125
Glu Ile Ser Ser Leu Asp Ala Ala Arg Lys Arg Ser Ser Asp Gly Phe
130 135 140
Ser His Asp Gly Ser Ser Ala Leu Glu Asp Asn Gly Cys Ser Ser Trp
145 150 155 160
Glu Val Asp Ser Lys Arg Leu Lys Arg Leu Gly Glu Leu Gly Thr Glu
165 170 175
Gln Gly Pro Glu Val Glu Ala Glu Val Glu Val Ser Asp Arg Ser Asp
180 185 190
Ala Asn Pro Gly Arg Val Leu Tyr Arg Pro Val Pro Val Val Ser Phe
195 200 205
Phe Ser Ser Phe Gly Lys Thr Val Ala Asn Leu Gln Glu Thr Ala Ala

<210> 1098
 <211> 46
 <212> PRT
 <213> Pinus radiata

<400> 1098
 Ala Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp Ile
 1 5 10 15
 Lys Arg Gly Asn Ile Ser Pro Glu Glu Glu Glu Leu Ile Ile Arg Leu
 20 25 30
 His Arg Leu Leu Gly Asn Arg Tyr Val Glu Asn Arg Gly Thr
 35 40 45

<210> 1099
 <211> 113
 <212> PRT
 <213> Pinus radiata

<400> 1099
 Met Gly Arg Ser Pro Cys Cys Ser Lys Glu Gly Leu Asn Arg Gly Ala
 1 5 10 15
 Trp Thr Lys Arg Glu Asp Met Ile Leu Ser Glu Tyr Val Arg Ile His
 20 25 30
 Gly Asp Gly Gly Trp Arg Asn Leu Pro Glu Lys Ala Gly Leu Lys Arg
 35 40 45
 Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp
 50 55 60
 Ile Lys Arg Gly Asn Ile Cys Pro Ala Glu Glu Leu Ile Ile Arg
 65 70 75 80
 Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Leu
 85 90 95
 Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Leu
 100 105 110
 Ser

<210> 1100
 <211> 148
 <212> PRT
 <213> Pinus radiata

<400> 1100
 Pro Tyr Leu His Glu Ser Arg His Leu His Ala Met Lys Arg Ala Arg
 1 5 10 15
 Gly Cys Gly Gly Arg Phe Leu Asn Thr Lys Lys Leu Glu Asp Ser Lys
 20 25 30
 Ala Asn Val Asp Asn Gly Lys Thr Pro Glu Gly His Thr Ala Gln Ala
 35 40 45
 Gly Ser Ser Ser Gly Ser Glu Val Leu Gln Ser Glu Asn Gly Asn Gly
 50 55 60
 Asn Ser Thr Gln Glu Leu His Gly Ala Cys Gly Met Ser Gly Ser Gln
 65 70 75 80
 Val Thr Ser Ile Ala Gln Ser Ser Glu Asn Gly Thr Thr Tyr Gln Tyr
 85 90 95
 Ser His Thr Asn Gly Ala Tyr Leu Asn His Tyr Gln His Pro His Phe
 100 105 110

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Pro | Pro | Pro | Ser | Tyr | Ser | Met | Phe | Pro | Asn | Ser | Gly | Met | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Asn | Pro | Ser | Val | Thr | Ser | Ser | Glu | Pro | Ser | Ser | Gln | Val | Ser | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ile | Pro | His | Gln | Tyr | Ser | Gly | Ser | Glu | Glu | Asp | Pro | Lys | Leu | Thr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Asp | Glu | Arg | Lys | Gln | Lys | Arg | Met | Leu | Ser | Asn | Arg | Glu | Ser | Ala |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Arg | Arg | Ser | Arg | Met | Arg | Lys | Gln | Gln | His | Leu | Asp | Glu | Leu | Arg | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Arg | Thr | Ala | His | Leu | Arg | Ala | Glu | Asn | Ser | His | Met | Leu | Thr | Lys | Phe |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Asn | Ile | Ala | Ser | Gln | Lys | Tyr | Met | Gln | Leu | | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 1104

<211> 162

<212> PRT

<213> Pinus radiata

<400> 1104

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gly | Gln | Pro | Arg | Arg | His | Leu | Leu | Thr | Thr | Gly | Trp | Ser | Val | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Ser | Ala | Lys | Arg | Leu | Val | Ala | Gly | Asp | Ala | Phe | Ile | Phe | Leu | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Glu | Asn | Ser | Glu | Leu | Arg | Val | Gly | Val | Arg | Arg | Val | Met | Arg | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Ser | Asn | Met | Pro | Ser | Ser | Val | Ile | Ser | Ser | His | Ser | Met | His | Leu |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Gly | Val | Ile | Ala | Thr | Ala | Ser | His | Ala | Val | Thr | Thr | Arg | Thr | Met | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Thr | Val | Tyr | Tyr | Lys | Pro | Arg | Thr | Ser | Gln | Ser | Glu | Phe | Ile | Ile | Pro |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Tyr | Asp | Lys | Tyr | Met | Glu | Ala | Val | Asn | Ser | Asn | Leu | Ser | Val | Gly | Met |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Phe | Lys | Met | Arg | Phe | Glu | Gly | Glu | Glu | Ala | Pro | Glu | Arg | Arg | Phe |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Thr | Gly | Thr | Ile | Ile | Gly | Ile | Gly | Asp | Val | Asp | Pro | Ser | Arg | Trp | Pro |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Ser | Ser | Lys | Trp | Arg | Ser | Leu | Lys | Val | Gln | Trp | Asp | Glu | Thr | Cys | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ile | Pro | | | | | | | | | | | | | | |

<210> 1105

<211> 115

<212> PRT

<213> Pinus radiata

<400> 1105

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Gln | Ser | Glu | Glu | Gln | Pro | Asn | Glu | Ala | Thr | Val | Pro | Arg | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Asp | Ser | His | Arg | Ser | Ile | Pro | Thr | Pro | Phe | Leu | Met | Lys | Thr | Tyr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Leu | Val | Asp | Asp | Pro | Ser | Leu | Asn | Asp | Ile | Ile | Ser | Trp | Asn | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Gly | Thr | Thr | Phe | Ile | Val | Trp | Arg | Pro | Ala | Glu | Phe | Ala | Arg | Asp |

50 55 60
 Leu Leu Pro Asn Tyr Phe Lys His Asn Asn Phe Ser Ser Phe Val Arg
 65 70 75 80
 Gln Leu Asn Thr Tyr Gly Phe Arg Lys Ile Val Pro Asp Arg Trp Glu
 85 90 95
 Phe Ala Asn Glu Phe Phe Arg Arg Gly Glu Lys Lys Leu Leu Cys Glu
 100 105 110
 Ile His Arg
 115

<210> 1106
 <211> 37
 <212> PRT
 <213> Pinus radiata

<400> 1106
 Met Gly Arg Ala Pro Cys Cys Thr Lys Val Gly Leu Asn Lys Gly Ala
 1 5 10 15
 Trp Ser Ala Glu Glu Asp Ser Leu Leu Gly Arg Tyr Ile Gln Thr His
 20 25 30
 Gly Glu Gly Asn Trp
 35

<210> 1107
 <211> 187
 <212> PRT
 <213> Pinus radiata

<400> 1107
 Thr Arg Ser Gly Ser Lys Asn Ser Ala Arg Ala Pro Val Ser Gly Phe
 1 5 10 15
 Ser Met Asn Ser Asn Met Gly Val Ser Gly Gly Leu Asp Glu Ser Gly
 20 25 30
 Phe Ser Gln Pro Pro Pro Asn Phe Ala Lys Met Asn Ala Pro Thr Arg
 35 40 45
 Thr Phe Thr Lys Val Tyr Lys Leu Gly Ser Val Gly Arg Ser Val Asp
 50 55 60
 Val Thr Arg Phe Arg Gly Tyr Pro Asp Leu Arg Ala Glu Leu Asp Arg
 65 70 75 80
 Met Phe Gly Leu Glu Gly Gln Leu Glu Asn Pro Arg Ser Ser Trp Gln
 85 90 95
 Leu Val Phe Val Asp Lys Glu Lys Asp Val Leu Leu Leu Gly Asp Asp
 100 105 110
 Pro Trp Glu Glu Phe Val Asn Asn Val Arg Phe Ile Lys Ile Leu Ser
 115 120 125
 Pro Pro Glu Val Gln Gln Met Ser Gln Glu Asp Met Glu Phe Trp Ser
 130 135 140
 Ser Ile Pro Thr Gln Gln Thr Ser Ser Ser Asp Asp Cys Val
 145 150 155 160
 Ala Arg Asn Ser Ser Arg Asn Ile Arg Ser Val Leu Thr Ser Pro Gly
 165 170 175
 Ser Leu Asp Val Leu Ser Val Asp Pro Ile Val
 180 185

<210> 1108
 <211> 130
 <212> PRT

Leu His Glu Leu Ile Gly Asn Arg Trp Ser Thr Ile Ala Ser Tyr Leu
 85 90 95
 Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Val Trp Asn Thr His Leu
 100 105 110
 Lys Lys Arg Leu Ala Arg Met Lys Ala Asp Ser Val Ala Val Asp Ala
 115 120 125
 Gln Pro Thr Pro Ala Ser Ser Leu Ala Ser Ser Thr Thr Glu Met Thr
 130 135 140
 Cys His
 145

<210> 1111
 <211> 72
 <212> PRT
 <213> Pinus radiata

<400> 1111
 Cys Ile Glu Ala Asn Gly Gly Gly Ala Pro Gly Arg Ser Leu Pro Lys
 1 5 10 15
 Ala Ala Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile
 20 25 30
 Asn Tyr Leu Arg Pro Asp Asp Val Lys Arg Gly Asn Phe Thr Glu Glu
 35 40 45
 Glu Asp Asp Leu Ile Ile Lys Leu His Ser Leu Leu Gly Asn Lys Trp
 50 55 60
 Ser Leu Ile Ala Gly Arg Leu Pro
 65 70

<210> 1112
 <211> 112
 <212> PRT
 <213> Pinus radiata

<400> 1112
 Met Arg Arg Leu Arg Cys Glu Lys Gly Asn Thr Asn Lys Gly Ala Trp
 1 5 10 15
 Thr Gln Gln Glu Asp Ala Arg Leu Ile Ala Tyr Ile Arg Ala His Gly
 20 25 30
 Glu Gly Gly Trp His Ser Leu Pro Arg Ala Ala Gly Leu Leu Arg Cys
 35 40 45
 Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asn Leu
 50 55 60
 Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Asp Leu Ile Ile Lys Leu
 65 70 75 80
 His Asn Leu Leu Gly Asp Lys Trp Ser Leu Ile Ala Gly Arg Leu Pro
 85 90 95
 Gly Arg Met Glu Asp Gln Ile Lys Asn Tyr Trp Asp Thr His Phe Lys
 100 105 110

<210> 1113
 <211> 148
 <212> PRT
 <213> Pinus radiata

<400> 1113
 Gly Lys Glu Val His Ile Ala Glu Pro Asp Gln Val Ser Asp Pro Pro
 1 5 10 15

Lys Ala Ile Lys Tyr Glu Pro Pro Ala Val Ser Cys Asp Gln Glu Lys
 20 25 30
 Pro Leu Gln Lys Leu Ser Lys Glu Thr Gln Val Lys Gln His Gly Asn
 35 40 45
 Pro Thr Arg Ser Cys Thr Lys Val His Lys Gln Gly Ile Ala Leu Gly
 50 55 60
 Arg Ala Val Asp Leu Thr Lys Phe Glu Gly Tyr Glu Glu Leu Ile Cys
 65 70 75 80
 Glu Leu Glu Arg Met Phe Asn Ile Glu Gly Glu Leu Arg Asn Pro Ser
 85 90 95
 Lys Gly Trp Gln Val Val Tyr Thr Asp Asn Glu Gly Asp Met Met Leu
 100 105 110
 Val Gly Asp Asp Pro Trp Gln Glu Phe Cys Ser Ile Val Arg Lys Ile
 115 120 125
 Phe Ile Tyr Thr Arg Glu Glu Val Glu Lys Met Thr Pro Gln Lys His
 130 135 140
 Ala Lys Leu Gln
 145

<210> 1114
 <211> 273
 <212> PRT
 <213> Pinus radiata

<400> 1114
 Glu Thr Gln Ser Ser Asp Asn Asn Tyr Met Val Gly Phe Val Leu Ala
 1 5 10 15
 Asn Val Val Gly Leu Gln Tyr Tyr Thr Gly Thr Ile Asn Gly Arg Glu
 20 25 30
 Met Ile Arg Leu Val Arg Glu Pro Glu Asn Arg Tyr Asp Pro Asn Ala
 35 40 45
 Ile Lys Val Leu Asn Met Ser Gly Gln Gln Val Gly His Ile Glu Arg
 50 55 60
 Ala Val Ala Leu Ala Leu Ala Ser His Val Asp Gln Ser Leu Ile Leu
 65 70 75 80
 Ile Glu Gly Ile Val Ser Arg Ala Leu His Lys Gly Ala Tyr Lys Leu
 85 90 95
 Pro Cys Gln Ile Tyr Ile Phe Ser His Arg Asp Ser Met Gly Met Val
 100 105 110
 Leu Gln Leu Leu Lys Gly Ala Gly Leu Asn Val Ile Thr Ala Glu Asp
 115 120 125
 Gln Glu Phe Leu Thr Ala Glu Ser Ile Ala Ala Lys Glu Ile Tyr Glu
 130 135 140
 Asp Pro Gly Val Lys Glu Val Arg Arg Val Asp Asp Ile Phe Gly Ser
 145 150 155 160
 Leu Asn Asn Pro Lys Lys Arg Gln Ser Met Glu Ala Cys Glu Leu Val
 165 170 175
 Thr Ser Thr Leu Leu Gln His Gln Lys Glu Ala Leu Ala Trp Met Val
 180 185 190
 Gln Arg Glu Asn Ser Ser Glu Leu Pro Pro Phe Trp Asp Val Cys Asp
 195 200 205
 Lys Thr Ser Lys Ser Gln Gln Leu Arg Tyr Lys Asn Val Leu Thr Asn
 210 215 220
 Phe Glu Thr Asn Gly Arg Pro Lys Pro Leu Arg Gly Gly Ile Leu Ala
 225 230 235 240
 Asp Asp Met Gly Leu Gly Lys Thr Leu Ser Leu Leu Ser Leu Ile Ala
 245 250 255

Thr Asn Arg Pro Gly Ala Lys Leu Pro Pro Val Val Asp Ile Ala Pro
 260 265 270
 Ser

<210> 1115
 <211> 129
 <212> PRT
 <213> Pinus radiata

<400> 1115
 Leu Ile Pro Gln His Asn Ala Phe Ser Leu Glu Leu Arg Phe Ser Asp
 1 5 10 15
 Arg Gln Leu Pro Ser Ser Thr Pro Pro Asn Cys Asp Ser Met Phe Pro
 20 25 30
 Ser His Tyr Thr Ala Leu Ala Leu Arg Arg Gln Met Trp Arg Asn Pro
 35 40 45
 Arg Glu Ser Gly Gln Ser His Ser Gln Pro Pro Glu Lys Asp Arg Gly
 50 55 60
 Lys Thr Phe Gly Gln Phe Lys Gly Ile Arg Met Arg Lys Trp Gly Lys
 65 70 75 80
 Trp Val Ser Glu Ile Arg Met Pro Arg Ser Lys Glu Arg Ile Trp Leu
 85 90 95
 Gly Ser Tyr Lys Thr Val Glu Gln Ala Ala Arg Ala Tyr Asp Ala Ala
 100 105 110
 Leu Tyr Cys Leu Arg Gly Pro Asn Ala Lys Phe Asn Phe Pro Asn Ser
 115 120 125
 Val

<210> 1116
 <211> 90
 <212> PRT
 <213> Pinus radiata

<400> 1116
 Met Asp Arg Glu Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
 1 5 10 15
 Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Thr Ile His Lys Thr Ala
 20 25 30
 Thr Ala Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
 35 40 45
 Asn Asn Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp His
 50 55 60
 Val Ile His Phe Ala Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
 65 70 75 80
 Thr Trp Val Gly Ser Gly His Arg Lys Gln
 85 90

<210> 1117
 <211> 33
 <212> PRT
 <213> Pinus radiata

<400> 1117
 Gly Lys Thr Gln Met Lys Leu Lys Arg Glu Arg Asp Gln Gln Ala Arg
 1 5 10 15

Asp Ala Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu
 20 25 30
 Ser

<210> 1118
 <211> 107
 <212> PRT
 <213> Pinus radiata

<400> 1118
 Met Gly Arg Ala Pro Cys Cys Ala Asn Gly Asp Arg Ser Lys Gly Ala
 1 5 10 15
 Trp Thr Lys Glu Glu Asp Asp Arg Leu Thr Gln Tyr Ile Gln Ala His
 20 25 30
 Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
 35 40 45
 Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
 50 55 60
 Leu Lys Arg Gly Gly Phe Ser Glu Asp Glu Asp Asp Leu Ile Leu Lys
 65 70 75 80
 Leu His Ala Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
 85 90 95
 Pro Gly Arg Thr Gly His Gln Asn Gln Asn Tyr
 100 105

<210> 1119
 <211> 112
 <212> PRT
 <213> Pinus radiata

<400> 1119
 Arg Lys Ser Asn Val His Ser Phe Cys Lys Thr Leu Thr Ala Ser Asp
 1 5 10 15
 Thr Ser Thr His Gly Gly Phe Ser Val Leu Arg Arg His Ala Asp Glu
 20 25 30
 Cys Leu Pro Pro Leu Asp Met Ser Gln Gln Pro Pro Ser Gln Glu Leu
 35 40 45
 Val Ala Arg Asp Leu His Gly Met Glu Trp Arg Phe Arg His Ile Phe
 50 55 60
 Arg Gly Gln Pro Arg Arg His Leu Leu Thr Thr Gly Trp Ser Val Phe
 65 70 75 80
 Val Ser Ser Lys Arg Leu Val Ala Gly Asp Ala Phe Ile Phe Leu Arg
 85 90 95
 Gly Glu Ser Gly Glu Leu Arg Val Gly Val Arg Arg Ala Met Arg Gln
 100 105 110

<210> 1120
 <211> 156
 <212> PRT
 <213> Pinus radiata

<400> 1120
 Ala Leu Arg Glu Ala Ile Lys Asn Gly Ala Cys Pro Asn Cys Gly Gly
 1 5 10 15
 Ser Thr Ser Leu Gly Glu Met Pro Gly Phe Asp Glu His His Phe Arg
 20 25 30

095403.1 031600

85 90 95

Ala Trp Arg Cys Gly Pro Pro Pro
100

<210> 1123
<211> 169
<212> PRT
<213> Pinus radiata

<400> 1123

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Glu | Lys | Gln | Leu | Ser | Ile | Ser | Gly | Arg | Asn | Trp | Gly | Glu | Val | Asn |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Leu | Glu | Gly | Asn | Met | Leu | Thr | Phe | Leu | Val | Gly | Ser | Lys | Pro | Ala | Phe |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Val | Ser | Leu | Ala | Asp | Val | Ser | Gln | Thr | Gln | Leu | Gln | Gly | Lys | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Val | Val | Leu | Glu | Phe | His | Val | Asp | Asp | Thr | Thr | Gly | Ala | Asn | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Asp | Ser | Leu | Met | Glu | Leu | Ser | Phe | His | Ile | Pro | Asn | Ser | Asn | Thr |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Thr | Phe | Ala | Gly | Asp | Glu | Ala | Ser | Pro | Pro | Ala | Gln | Ile | Phe | Arg | Glu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Lys | Ile | Met | Ser | Met | Ala | Asp | Val | Gly | Ser | Ser | Gly | Gly | Glu | Ala | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Leu | Phe | Glu | Asp | Ile | Ala | Ile | Leu | Thr | Pro | Arg | Gly | Arg | Tyr | Thr |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Ile | Glu | Leu | His | Leu | Ser | Phe | Met | Arg | Leu | Gln | Gly | Gln | Ala | Ser | Asp |
| | 130 | | | | 135 | | | | | 140 | | | | | |
| Phe | Lys | Ile | Gln | Tyr | Ser | Ser | Val | Leu | Arg | Leu | Phe | Val | Leu | Pro | Lys |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 |
| Ser | Pro | His | Thr | Leu | Val | Val | Ile | Thr | | | | | | | |
| | | | | 165 | | | | | | | | | | | |

<210> 1124
<211> 124
<212> PRT
<213> Pinus radiata

<400> 1124

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | His | Ser | Gln | Asn | Phe | Ser | Thr | Asp | Val | Asn | Arg | Met | Pro | Asp |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Val | Pro | Pro | Arg | Arg | Gly | Gly | His | Arg | Arg | Ala | Gln | Ser | Glu | Ile | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Arg | Leu | Pro | Asp | Asp | Ile | Met | Phe | Asp | Gly | Asp | Leu | Gly | Phe | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Phe | Asp | Met | Pro | Thr | Val | Ser | Asp | Asp | Ala | Thr | Glu | Ala | Glu | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Ile | Ser | Met | Tyr | Met | Asp | Met | Glu | Lys | Leu | Thr | Ser | Phe | Gly | Glu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Pro | Leu | Asn | Ser | Ala | Ala | Gly | Glu | Gly | Ser | Lys | Leu | Pro | Ser | Gly | Ala |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Glu | Thr | Asn | Arg | Pro | Pro | His | His | Ser | Arg | Ser | Leu | Ser | Val | Asp | Ala |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Val | Phe | Ser | Gly | Phe | Glu | Gly | Asn | Met | Glu | Asp | Thr | | | | |
| | | 115 | | | | | 120 | | | | | | | | |

<210> 1125

<211> 70
 <212> PRT
 <213> Pinus radiata

<400> 1125
 Met Asp Arg Ser Ser Ser Glu Asp Ser Val Asp Ser Gln Gly Asp Val
 1 5 10 15
 Asn Ala Asn Tyr Lys Met Val Phe Ser Glu Asp Glu Lys Asp Leu Ile
 20 25 30
 Ser Arg Leu Tyr Asn Leu Leu Gly Gln Arg Trp Ala Leu Ile Ala Gly
 35 40 45
 Arg Ile Pro Gly Arg Thr Ala Glu Glu Ile Glu Lys Tyr Cys Ser Arg
 50 55 60
 Arg Tyr Ile Ser Glu Tyr
 65 70

<210> 1126
 <211> 120
 <212> PRT
 <213> Pinus radiata

<400> 1126
 Gly Gly Glu Ile Arg Ile Leu Arg Gly Phe Phe Val Asn Gln Lys Thr
 1 5 10 15
 Asp Gly Gln Gly Ser Ser Phe Ala Ala Ser Ser Ser Arg Asn Ser Ser
 20 25 30
 Phe Ser Asn Gly Tyr Asp Asn Pro Gln Asn Thr Asn Lys Asn Ser Ser
 35 40 45
 Ser Gly Gly Thr Gly Asp Ala Gly Ser Phe Glu Cys Asn Ile Cys Leu
 50 55 60
 Glu Leu Ala Gln Asp Pro Ile Val Thr Leu Cys Gly His Leu Phe Cys
 65 70 75 80
 Trp Pro Cys Leu Tyr Lys Trp Leu His Gly His Ser Lys Ser Gln Glu
 85 90 95
 Cys Pro Val Cys Lys Ala Leu Val Glu Glu Asp Lys Ile Val Pro Leu
 100 105 110
 Tyr Gly Arg Gly Lys Val Gly Ser
 115 120

<210> 1127
 <211> 233
 <212> PRT
 <213> Pinus radiata

<400> 1127
 Met Gly Ala Pro Lys Gln Lys Trp Thr Ser Glu Glu Glu Gly Ala Leu
 1 5 10 15
 Lys Ala Gly Val Glu Lys Tyr Gly Thr Gly Lys Trp Arg Thr Ile Gln
 20 25 30
 Lys Asp Pro Glu Phe Gly His Cys Leu Ala Ala Arg Ser Asn Val Asp
 35 40 45
 Leu Lys Asp Lys Trp Arg Asn Met Ser Val Ser Ala Ser Gly Gln Gly
 50 55 60
 Ser Arg Asp Lys Val Lys Thr Pro Arg Val Lys Ala Ile Ala Ser Leu
 65 70 75 80
 Pro Tyr Ser Ser Val Thr Ala Glu Ser Thr Ser Val Phe Ser Ile Glu
 85 90 95

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 50 | | 55 | | 60 | | | | | | | | | | | | |
| Glu | Ala | Glu | Ala | Lys | Ser | Ser | Glu | Gly | Lys | Glu | Arg | Asn | Thr | Met | Lys | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Arg | Ser | Lys | Gly | Ser | Leu | Gly | Ser | Leu | Gly | Met | Ile | Thr | Gly | Lys | Gly | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Gly | Glu | Gly | Gly | Lys | Ala | Thr | Ser | Gly | Ser | Ala | Asn | Glu | Ala | Met | Ser | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Gln | Ser | Gly | Asp | Ser | Gly | Ser | Asp | Gly | Ser | Ser | Glu | Gly | Ser | Glu | Glu | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Tyr | Asn | Thr | Gln | Thr | Glu | Ser | Gln | Val | Ala | Arg | Lys | Arg | Ser | Phe | Asp | |
| 130 | | | | | | 135 | | | | | 140 | | | | | |
| Gln | Met | Ile | Val | Asp | Gly | Ala | Asn | Ala | Gln | Ser | Thr | Asn | Ile | Gln | Ser | |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 | |
| Tyr | Asn | Ser | Gln | Ala | Gly | Glu | Pro | Tyr | Val | Thr | Ser | Gly | Gly | His | Ala | |
| | | | 165 | | | | | | 170 | | | | | 175 | | |
| Met | Gly | Asn | Pro | Ile | Ser | Gln | Ala | Val | Ala | Ala | | | | | | |
| | | | 180 | | | | | 185 | | | | | | | | |

<210> 1130
 <211> 80
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 1130 | | | | | | | | | | | | | | | | |
| Gly | Lys | Val | Thr | Ala | Ser | Gly | Lys | Val | Thr | Ser | Gly | Val | Asn | Asp | Leu | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | |
| Phe | Trp | Glu | Gln | Phe | Leu | Thr | Glu | Thr | Pro | Gly | Ser | Ala | Thr | Asp | Thr | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |
| Gln | Glu | Ala | Glu | Ser | Lys | Ile | Gln | Glu | Thr | Arg | Thr | Lys | Asp | Gln | Asp | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Glu | Arg | Leu | Pro | Glu | Asn | Gly | Lys | Cys | Trp | Ser | Asn | Lys | Gln | Thr | Leu | |
| 50 | | | | | 55 | | | | | 60 | | | | | | |
| Asp | Gln | Leu | Thr | Glu | Gln | Met | Gly | Gln | Leu | Ala | Ser | Gly | Thr | Gln | Thr | |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | | |

<210> 1131
 <211> 96
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 1131 | | | | | | | | | | | | | | | | |
| Met | Asn | Met | Asp | Ser | Arg | Gln | Ser | Gly | Glu | Glu | Glu | Asp | Cys | Asn | Val | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | |
| Thr | Arg | Pro | Gly | Gly | Gly | Gly | Gly | Ile | Ser | Leu | His | Val | Ser | Ser | Val | |
| | | 20 | | | | | 25 | | | | | 30 | | | | |
| Glu | Tyr | Cys | Gln | Lys | Ser | Ala | Cys | Val | Ala | His | Asp | Ile | Ser | Ser | Asp | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Glu | Gln | Asp | Leu | Ile | Asn | Arg | Leu | His | Asn | Leu | Leu | Gly | Asp | Arg | Trp | |
| 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ala | Leu | Ile | Ala | Gly | Arg | Leu | Pro | Trp | Arg | Arg | Arg | Glu | Glu | Ile | Glu | |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | | |
| Asn | Tyr | Cys | Lys | Met | Arg | Tyr | Thr | Ala | Thr | Thr | Ser | Ser | Ser | Arg | Ser | |
| | | | 85 | | | | | 90 | | | | | | 95 | | |

<210> 1132
 <211> 193
 <212> PRT

<213> Pinus radiata

<400> 1132

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Arg | Glu | Arg | Gly | Arg | Lys | Pro | Ala | Asn | Gly | Arg | Glu | Glu | Pro | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | His | Val | Glu | Ala | Glu | Arg | Gln | Arg | Arg | Glu | Lys | Leu | Asn | Gln | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Tyr | Glu | Leu | Arg | Ala | Val | Val | Pro | Asn | Val | Ser | Lys | Met | Asp | Lys |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Ala | Ser | Leu | Leu | Gly | Asp | Ala | Ala | Ala | Tyr | Ile | Lys | Asp | Leu | Phe | Ser |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Lys | Gln | Gln | Asp | Leu | Glu | Ser | Glu | Arg | Val | Asp | Met | Gln | Val | Gln | Ile |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asp | Thr | Ile | Lys | Lys | Glu | Leu | Leu | Met | Asn | Ser | Leu | Lys | Leu | Ala | Ala |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Lys | Glu | Ala | Lys | Asp | Leu | Ser | Ser | Ile | Asp | Leu | Lys | Gly | Phe | Ser | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Lys | Phe | Pro | Gly | Leu | Asn | Ser | Glu | Val | Arg | Ile | Val | Gly | Arg | Glu |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Ala | Ile | Ile | Arg | Ile | Gln | Cys | Thr | Lys | His | Asn | His | Pro | Val | Ala | Arg |
| | | | 130 | | | 135 | | | | | 140 | | | | |
| Leu | Met | Ile | Ala | Leu | Gln | Glu | Leu | Asp | Leu | Glu | Val | Leu | His | Ala | Ser |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ile | Ser | Thr | Val | Lys | Asp | Ser | Leu | Ile | Ile | Gln | Thr | Val | Ile | Val | Lys |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Met | Thr | Arg | Gly | Leu | Tyr | Thr | Glu | Asp | Gln | Leu | His | Ala | Leu | Leu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |

Lys

<210> 1133

<211> 88

<212> PRT

<213> Pinus radiata

<400> 1133

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Tyr | Asn | Arg | Lys | His | Ala | Ala | Ala | Ala | Thr | Ser | Pro | Asp | Ser |
| 1 | | | | | 5 | | | | 10 | | | | | 15 | |
| Ser | Leu | Gly | Ser | Asp | Asn | Glu | Ser | Gly | Gly | Gly | Gly | Gly | Gly | Gly | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Lys | Gly | Gln | Ser | Thr | Lys | Asn | Gly | Asn | Gly | Asn | Tyr | Ile | Arg | Glu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Gln | Asp | Arg | Leu | Leu | Pro | Ile | Ala | Asn | Val | Gly | Arg | Ile | Met | Lys | Arg |
| | | | 50 | | | 55 | | | | 60 | | | | | |
| Ala | Leu | Pro | Gly | Asn | Ala | Lys | Ile | Ser | Lys | Asp | Ala | Lys | Glu | Thr | Val |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gln | Glu | Cys | Val | Ser | Glu | Phe | Ile | | | | | | | | |
| | | | 85 | | | | | | | | | | | | |

<210> 1134

<211> 141

<212> PRT

<213> Pinus radiata

<400> 1134

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Thr | Arg | Asn | Pro | Phe | Asp | Leu | Leu | Glu | Asp | Asp | Asp | Asn | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Pro | Ser | Ser | Leu | Leu | Asp | Thr | Leu | Ala | Ala | Ala | Lys | Asp | Lys | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Val | Ala | Ala | Lys | Lys | Gln | Gln | Pro | Ala | Val | Ser | Ala | Ser | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Leu | Pro | Thr | Lys | Pro | Leu | Pro | Pro | Ala | Gln | Ala | Val | Lys | Glu | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Val | Ser | Pro | Asn | Glu | Gly | Gly | Arg | Gly | Arg | Gly | Gly | Gly | Arg | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gly | Arg | Gly | Phe | Gly | Asn | Arg | Glu | Ser | Gln | Glu | Phe | Gly | Arg | Gly | Arg |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Gly | Gly | Gly | Tyr | Asn | Val | Glu | Arg | Asn | Phe | Asn | Arg | Glu | Asn | Asn | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | Ser | Gly | Ser | Arg | Val | Gly | Phe | Tyr | Asp | Asn | Asn | Ser | Asp | Leu | Ile |
| | | 115 | | | | | | 120 | | | | 125 | | | |
| Pro | Ser | Arg | Asn | Glu | Asp | Gly | Asp | Gly | Ala | Ser | Asn | Asp | | | |
| | 130 | | | | | 135 | | | | | 140 | | | | |

<210> 1135
 <211> 43
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Met | Pro | Arg | Val | Lys | Leu | Ile | Ser | Arg | Asn | Phe | Met | Asp | Met | Val | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Leu | Pro | Ala | Ala | Lys | Leu | Asp | Arg | Leu | Tyr | Asp | Lys | Ser | Leu | His |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Arg | Ser | Gly | Leu | Arg | Ser | Leu | Thr | Pro | Val | | | | | |
| | | 35 | | | | | 40 | | | | | | | | |

<210> 1136
 <211> 48
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Met | Ala | Glu | Glu | Met | Asp | Thr | Pro | Thr | Lys | Thr | Thr | Lys | Thr | Pro | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Gln | Glu | Gln | Thr | Ser | Thr | Ser | Thr | Pro | Val | Ala | Tyr | Pro | Glu | Trp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Pro | Ile | Gln | Ala | Leu | Tyr | Asn | Ser | Gly | Lys | Thr | Pro | Leu | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |

<210> 1137
 <211> 190
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Ser | Phe | Ser | Ser | Thr | Arg | Glu | Ser | Met | Glu | Arg | Arg | Asp | Gln | Ser | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Ala | Ala | Arg | His | Pro | Met | Arg | Lys | His | Tyr | Arg | Gly | Val | Arg | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Gln | Trp | Gly | Lys | Trp | Val | Ala | Glu | Ile | Arg | Leu | Pro | Gln | Asn | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Arg | Leu | Trp | Leu | Gly | Thr | Phe | Asp | Thr | Ala | Glu | Ala | Ala | Ala | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Tyr | Asp | Arg | Ala | Ala | Tyr | Arg | Trp | Arg | Gly | Glu | Cys | Ala | Arg | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asn | Phe | Pro | His | Leu | Phe | Ser | Lys | Lys | Tyr | Gln | Asn | Ser | Ser | Pro | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Thr | Asn | Gly | Arg | Ile | Pro | Arg | Leu | Ser | Cys | Glu | Lys | Ser | Asp | Gln |
| | | 100 | | | | | | 105 | | | | | | 110 | |
| Lys | Tyr | Ala | Tyr | Asn | Gly | Asp | Pro | Val | His | Thr | Asn | Val | Tyr | Lys | Gly |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Pro | Ile | Arg | Ile | Thr | Ala | Tyr | Asn | Gly | Asp | Pro | Val | Pro | Ile | Asp |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Val | Tyr | Arg | Ser | Asp | Pro | Val | Arg | Val | Ser | Ala | Tyr | Thr | Gly | Asp | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Val | Arg | Ile | Ser | Ala | Tyr | Ser | Gly | Asp | Pro | Val | Gly | Asn | Thr | Val | Thr |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Leu | Ala | Glu | Ser | Glu | Leu | Glu | Ser | Ser | Cys | Ser | His | Glu | Ser | | |
| | | | 180 | | | | | 185 | | | | | 190 | | |

<210> 1138
 <211> 177
 <212> PRT
 <213> Pinus radiata

<400> 1138

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Asp | Tyr | Met | Glu | Glu | Gln | Asn | Trp | Asp | Ile | Asn | Gly | Ala | Lys | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Gly | Ser | Glu | Lys | Trp | Lys | Ala | His | Ser | Ser | Glu | Gln | Lys | Asp | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Thr | Ile | Pro | Thr | Lys | Val | Glu | Gly | Arg | Ile | Gly | Asn | Arg | Glu | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Leu | Asp | Val | Thr | Arg | Gly | Gly | Ala | Leu | Trp | Asp | Ile | Phe | Arg | Arg |
| 50 | | | | | | 55 | | | | | 60 | | | | |
| Glu | Asp | Ile | Pro | Lys | Leu | Gln | Asp | Tyr | Leu | Leu | Lys | His | Cys | Gln | Asp |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Phe | Arg | His | Ser | Arg | Asn | Val | Ser | Val | Asp | Ser | Val | Val | His | Pro | Ile |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| His | Asp | Gln | Thr | Phe | Tyr | Leu | Asn | Glu | Gly | His | Lys | Lys | Lys | Leu | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Glu | Tyr | Gln | Val | Glu | Pro | Trp | Thr | Phe | Glu | Gln | His | Leu | Gly | Glu |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Ala | Val | Phe | Ile | Pro | Ala | Gly | Cys | Pro | His | Gln | Val | Arg | Asn | Leu | Lys |
| | | | | | | 135 | | | | | 140 | | | | |
| Ser | Cys | Ile | Lys | Val | Ala | Leu | Asn | Phe | Val | Ser | Pro | Glu | Asn | Leu | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Glu | Cys | Ile | Arg | Leu | Glu | Asp | Glu | Leu | Arg | Leu | Leu | Pro | Lys | Asn | His |
| | | | | 165 | | | | | 170 | | | | | 175 | |

Arg

<210> 1139
 <211> 148
 <212> PRT
 <213> Pinus radiata

<400> 1139

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Arg | Glu | Met | Thr | Glu | Glu | Glu | Arg | Glu | Thr | Lys | Lys | Ala | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Val | Ala | Ala | Thr | Ala | Ala | Asp | Gln | Glu | Leu | Arg | Lys | Lys | Val | Leu |

[illegible][illegible][illegible]

409

<212> PRT
<213> Pinus radiata

<400> 1145
Val Ser Ser Arg His Glu Phe Ala Val Ser Gln Met Ala Tyr Leu Gln
1 5 10 15
Ala Leu Arg Asn Ala Gly Ala Thr Leu Arg Gln Phe Ala Glu Leu Glu
20 25 30
Ser Met Glu Leu Gln Lys Thr Ser Pro Tyr Pro His Leu Arg His Tyr
35 40 45
Arg Val Thr Leu Pro Pro Ser Pro Pro Pro Leu Pro Pro Pro Pro
50 55 60
Pro Pro Pro Pro Leu Ser Leu Thr Pro Ser Pro Ser Tyr Gly Ser Ala
65 70 75 80
Thr Phe Pro Ser Ser Ile Pro Val Asn Arg Ser Ile Tyr Arg Cys Pro
85 90 95
Tyr Gln Gln Cys Ser Pro Ser
100

<210> 1146
<211> 153
<212> PRT
<213> Pinus radiata

<400> 1146
Gln Leu Pro Asp Glu Ala Ile Ala Leu Ala Ala Ser His Ile Glu
1 5 10 15
Arg Glu Leu Gln Ile Thr Ser Trp Asn Leu Ser Cys Asn Phe Val Ala
20 25 30
Ser Thr Leu Gln Gly Arg Glu Cys Ile Glu Arg Leu Glu Ile Thr Gly
35 40 45
Ile Gly Asp Pro Ser Gly Arg Gly Leu Gly Phe Ser Tyr Leu Arg Val
50 55 60
Ala Pro Lys Pro Pro Ile Ser Ser Ala Leu Val Lys Lys Lys Ala Ala
65 70 75 80
Ala Ala Arg Gly Gly Ser Ala Val Thr Gly Thr Asp Ala Asp Leu Arg
85 90 95
Arg Leu Ser Met Asp Ala Ala Arg Glu Val Leu Leu Lys Phe Asn Val
100 105 110
Asp Glu Glu Gln Ile Glu Lys Met Thr Arg Trp His Arg Ile Ala Met
115 120 125
Val Arg Lys Leu Ser Ser Glu Gln Ala Ala Ser Gly Val Lys Val Asp
130 135 140
Ala Thr Ala Leu Asn Lys Phe Ala Arg
145 150

<210> 1147
<211> 73
<212> PRT
<213> Pinus radiata

<400> 1147
Met Lys Ser Pro Ser Thr Ser Cys Leu Ser His Pro Val Glu Gly Glu
1 5 10 15
Gln Lys Ser Ile Asn Ser Glu Leu Trp His Ala Cys Ala Gly Pro Leu
20 25 30
Val Ser Leu Pro Ser Val Gly Ser Val Val Tyr Tyr Phe Pro Gln Gly

Lys Val Ala Ser Glu Ser Ile Lys Ser Phe Ile Ser Val Val His Ala
 85 90 95
 Ile Val Met Gln Gln Ala Asp Glu Gln Lys Arg Lys Lys Lys Ala Glu
 100 105 110
 Asn Ile Ser Arg Glu Leu Gln Lys Lys Met Ile Ala Leu Arg Asn Ile
 115 120 125
 Glu Lys Lys Tyr Tyr Ser Ser Tyr Ser Ile Pro Ala Arg Ala Asp Ala
 130 135 140
 Thr Thr Glu Ser Gln Phe Glu Leu Gly His Thr Asp Pro Leu Ala Glu
 145 150 155 160
 Lys Arg Ala Glu Ile Glu Ile Tyr Lys Arg Arg Leu Glu Asp Glu Lys
 165 170 175
 Ala Asn Tyr Ser Lys Ser Ala Arg Gly Thr Arg Glu Met Thr Leu Asn
 180 185 190
 Asn Ile Gln Thr Gly Leu Pro Gly Leu Phe Gln Ala Leu Ser Ser Phe
 195 200 205
 Ser Ser Val Cys Ala Ser Ser Phe Glu
 210 215

<210> 1150
 <211> 33
 <212> PRT
 <213> Pinus radiata

<400> 1150
 Met Ala Met Gly Glu Ala Glu Arg Ile Thr Gly Pro Trp Ser Pro Glu
 1 5 10 15
 Glu Asp Thr Ser Leu His Lys Leu Val Glu Lys Ser Gly Pro Arg Asn
 20 25 30
 Trp

<210> 1151
 <211> 127
 <212> PRT
 <213> Pinus radiata

<400> 1151
 Trp Arg Pro Ala Lys Phe Ala Arg Asn Leu Leu Pro Asn Tyr Phe Lys
 1 5 10 15
 Pro Asn Asn Phe Ser Ser Phe Gly Arg Gln Leu Asn Thr Tyr Gly Phe
 20 25 30
 Arg Lys Ile Val Pro Asp Arg Trp Glu Phe Ser Asn Glu Phe Phe Arg
 35 40 45
 Lys Gly Glu Lys Gln Leu Leu Ser Glu Ile His Arg Arg Lys Gly Leu
 50 55 60
 Ile Gln Pro Pro Pro Pro Glu Asn Arg Ser Ile Ser Pro Ser Asn
 65 70 75 80
 Ser Gly Asp Glu Gln Thr Trp Ser Ser Thr Ser Ser Pro Asn Ser Ser
 85 90 95
 Thr Gly Val Asp Ala Leu Ser His Lys Asn Ala Ile Glu Glu Asn Glu
 100 105 110
 Lys Leu Arg Lys Glu Asn Leu Leu Leu Val Ser Glu Leu Thr Gln
 115 120 125

<210> 1152
 <211> 104

<212> PRT
 <213> Pinus radiata

<400> 1152
 Pro His Gly Leu Gln His His Ser Ser Asp Asp Ala Asn Gly Asp Gly
 1 5 10 15
 Asp Lys Arg Ile Gly Val Glu Thr Gly Ser Ser Val Cys Pro Glu Leu
 20 25 30
 Trp His Ala Cys Ala Gly Pro Leu Ile Ser Leu Pro Pro Lys Gly Ser
 35 40 45
 Arg Val Val Tyr Phe Pro Gln Gly His Leu Glu Gln Ile Ala Asp Asn
 50 55 60
 Glu Leu His Arg Gly Gly Arg Gly Ser Phe Leu Asn Ile Asn His Ala
 65 70 75 80
 Ala Ala Pro Met Ala Glu Glu Ala Ser Ser Ala Ala Ala Leu Asn Ile
 85 90 95
 Pro Pro Ser Phe Ile Ser Gln Pro
 100

<210> 1153
 <211> 146
 <212> PRT
 <213> Pinus radiata

<400> 1153
 Glu Thr Leu Thr Leu Leu Lys Ile Arg Ser Glu Met Asp Ser Lys Phe
 1 5 10 15
 Arg Glu Ala Thr His Lys Gly Pro Leu Trp Asp Glu Val Ser Arg Ala
 20 25 30
 Leu Ala Glu His Gly Tyr Gln Arg Ser Ser Lys Lys Cys Arg Glu Lys
 35 40 45
 Phe Glu Asn Leu Tyr Lys Tyr Tyr Lys Lys Thr Lys Glu Gly Lys Ala
 50 55 60
 Gly Arg Gln Asp Gly Lys His Tyr Arg Phe Phe Ser Gln Leu Glu Ala
 65 70 75 80
 Leu Tyr Gly Gly Thr Thr Ile Asp Ala Ala Asp Ser Cys Phe Gly Val
 85 90 95
 Thr Thr Arg Thr Asn Leu Thr Glu Ser Pro Gly Leu Asp Phe Asn Gly
 100 105 110
 Asp Gly Ala Ser Gln Lys Tyr Ala Asp Thr His His Asn Ser Glu Gly
 115 120 125
 Phe Ser Leu Ser Ser Asp Ser Ser Ser Asp Asp Glu Tyr Ser His Asp
 130 135 140
 Ile Gln
 145

<210> 1154
 <211> 105
 <212> PRT
 <213> Pinus radiata

<400> 1154
 Ile Phe Tyr Arg Leu His Cys Asn Leu Gly Glu Lys Ser Asn Lys Ile
 1 5 10 15
 Tyr Ile Cys Leu Phe Thr Met Glu Leu Ala Asp Glu His Ser Ile Leu
 20 25 30
 Arg Tyr Lys Lys Pro Lys Leu Ser Lys Asn Val Val Ser Glu Arg Arg

<210> 1157
 <211> 119
 <212> PRT
 <213> Pinus radiata

<400> 1157
 Gly Thr Val Gly Arg Lys Arg Arg Arg Ile His Arg Ser Ser Ile Gly
 1 5 10 15
 Val Thr Gly Gly Arg Gly Leu Arg His Phe Ser Met Lys Val Cys Lys
 20 25 30
 Lys Val Glu Ser Lys Gly Trp Thr Tyr Asn Glu Val Ala Ser Glu
 35 40 45
 Leu Val Ala Glu Phe Val Asn Pro Asn Ser Thr His Leu Ser Gln Asp
 50 55 60
 Gln Gln Gln Phe Asp Glu Lys Asn Ile Arg Arg Arg Val Tyr Asp Ala
 65 70 75 80
 Leu Asn Val Leu Met Ala Met Asp Ile Ile Ser Lys Glu Lys Lys Glu
 85 90 95
 Ile Arg Trp Lys Gly Leu Pro Thr Thr Asn Leu Ser Asp Ile Glu Arg
 100 105 110
 Leu Lys Thr Glu Arg Lys Arg
 115

<210> 1158
 <211> 97
 <212> PRT
 <213> Pinus radiata

<400> 1158
 Cys Pro Arg Ala Phe Ala Arg Ala Tyr Asn Leu Lys Thr His Met Ala
 1 5 10 15
 Thr His Asp Pro Asn Arg Leu Lys Pro His Val Cys Pro His Arg Ser
 20 25 30
 Cys Ala Arg Ser Phe Ser Arg Lys His Asp Leu Gly Arg His Leu Val
 35 40 45
 Ser Ile His Arg Asp Asp Ser Val Val Ser Thr Pro Ser Ala Ser Met
 50 55 60
 Lys Ser Ile Gly Val Asp Ser Gly Arg Arg Ser Trp Cys Asp Asn Cys
 65 70 75 80
 Gly Lys Gly Thr Ile Gly Ala Ser Cys Gln Cys Ser Cys Ala Asp Ile
 85 90 95
 Lys

<210> 1159
 <211> 162
 <212> PRT
 <213> Pinus radiata

<400> 1159
 His Ala Pro Ile Phe Cys Arg Val Ala Arg Asn Phe Gln Leu Arg Val
 1 5 10 15
 Ile Leu Lys Glu Asn Arg Arg Arg Glu Thr Phe Asp Gly Phe Leu Arg
 20 25 30
 Glu Asp His Glu Lys Val Ser Gln Leu Val Thr Gln His Tyr Lys Val
 35 40 45

Gln Leu Glu Thr Lys Glu Ile Ser Val Lys Gly Trp Asn Trp Gly Ser
50 55 60
Thr Asp Val Gln Gly Asn Asp Leu Ala Phe Val Val Ala Asn Arg Thr
65 70 75 80
Ala Phe Glu Val Pro Leu Arg Ser Ile Thr Asn Ser Asn Ile Ala Gly
85 90 95
Arg Thr Glu Val Ser Leu Glu Phe Ser Thr Ala Pro Ala Pro Ser Ala
100 105 110
Ser Lys Ser Lys Lys Gly Arg Pro Asp Glu Leu Thr Glu Ile Arg Phe
115 120 125
Tyr Val Pro Gly Thr His Thr Lys Asp Asp Asp Asp Glu Ala Asp Ile
130 135 140
Thr Lys Asp Asp Glu Glu Val Ser Ala Ala Gln Ala Phe His Asp Met
145 150 155 160
Ile Lys

<210> 1160
<211> 163
<212> PRT
<213> Pinus radiata

<400> 1160
Gly Ser Gly Gly Val Lys Met Glu Asp His Ser Pro Val Ile Ile Asn
1 5 10 15
Ser Gln Ser Gly Tyr Cys Gln Ser Gln Gln Ser Ser Gln Met Pro Leu
20 25 30
Ala Gly Tyr Met Ser Pro His Gly Ile Pro Ile Gln His Thr Asp Asp
35 40 45
Ala Ala Ser Lys Glu Thr Gln Tyr Leu Arg Arg Arg Cys Phe Asn Cys
50 55 60
His Thr Thr Glu Pro Pro Ser Trp Arg Arg Ser Thr Leu Thr Pro Gly
65 70 75 80
Lys Ile Val Cys Asn Lys Cys Gly Leu Tyr Glu Arg Thr His Leu Arg
85 90 95
Pro Arg Pro Leu Arg Phe Asp Glu Leu Arg Ala Gly Asn Lys Ser Arg
100 105 110
Lys Gln Thr Lys Ser Ser Pro Lys Gly Ala Lys Val Ile Pro Pro Gly
115 120 125
Pro Leu Pro Ile Lys Lys Glu Pro Ala Glu Met Glu Ala Ile Ser Arg
130 135 140
Arg Met Ser Val Ser Ser Ser Ser Ser Ala Gln Ser Gly Gly Gly Gly
145 150 155 160
Ser Ser Asp

<210> 1161
<211> 148
<212> PRT
<213> Pinus radiata

<400> 1161
Arg Asn Leu Leu Gly Ala Arg Ala Gln Pro Met Lys Leu Ser Ala Lys
1 5 10 15
Asn Asp Ser Lys Leu Gly Ile Ala Arg Pro Ala Lys Leu Tyr Arg Gly
20 25 30
Val Arg Gln Arg His Trp Gly Lys Trp Val Ala Glu Ile Arg Leu Pro

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| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Arg | Asn | Arg | Thr | Arg | Leu | Trp | Leu | Gly | Thr | Phe | Asp | Thr | Ala | Glu | Glu | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ala | Ala | Phe | Ala | Tyr | Asp | Thr | Ala | Ala | Tyr | Gln | Leu | Arg | Gly | Glu | Tyr | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Ala | Arg | Leu | Asn | Phe | Pro | Asp | Leu | Arg | Tyr | Leu | Leu | Leu | Ser | Asn | Ser | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Asp | Asn | Gly | Ser | His | Asn | Val | Leu | Ser | Pro | Pro | Gly | Asn | Ala | Leu | Ser | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Val | Leu | Lys | Ser | Ser | Val | Asp | Ala | Lys | Leu | Gln | Ala | Ile | Cys | Gln | Arg | | |
| | 115 | | | | | | 120 | | | | | 125 | | | | | |
| Leu | Ser | Gln | Glu | Asn | Ser | Ser | Glu | Asn | Arg | Leu | Met | Ala | His | Ser | Ala | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Asn | Asn | Glu | Ala | | | | | | | | | | | | | | |
| 145 | | | | | | | | | | | | | | | | | |

<210> 1162
 <211> 48
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Phe | Leu | Glu | Ala | Leu | Glu | Lys | Arg | Glu | Glu | Asp | Arg | Met | Met | Arg | Glu | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Glu | Ala | Trp | Lys | Arg | Gln | Glu | Met | Ala | Arg | Leu | Asn | Lys | Asp | Gln | Glu | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Leu | Arg | Ser | Gln | Glu | Arg | Ser | Met | Ala | Ala | Ser | Arg | Asp | Leu | Ala | Leu | | |
| | 35 | | | | | | 40 | | | | | 45 | | | | | |

<210> 1163
 <211> 255
 <212> PRT
 <213> Pinus radiata

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Val | Ala | Leu | Ser | Asn | Asn | Pro | Leu | Ile | Phe | Ser | Ala | Lys | Val | Glu | Asn | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Gly | Thr | Pro | Ser | Tyr | Asp | Gly | Leu | Lys | His | Ala | Asn | Thr | Asn | Pro | Met | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Pro | Phe | Ser | Gly | Leu | Gly | Asn | Val | Ser | Met | Gly | Pro | Leu | Phe | Tyr | Gln | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Ala | Asn | Pro | Ile | Gln | Arg | Val | Lys | Arg | Val | Arg | Asp | Thr | Ser | Phe | Ile | | |
| | 50 | | | | | 55 | | | | 60 | | | | | | | |
| Met | Gly | Pro | Pro | Ser | Ser | Pro | Phe | Gly | Arg | Met | Gly | Val | Asn | Gly | His | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Met | Gly | Met | Asn | Asp | Val | Ser | Lys | Ser | Leu | Gln | Pro | Gly | Phe | Lys | Ala | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Arg | Val | Pro | Tyr | Pro | Leu | Gln | Ala | Ala | Arg | Ser | Asp | Ser | Phe | Val | Ala | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |
| Gln | Gly | Cys | Phe | Pro | Tyr | Asp | Pro | Asn | Leu | Ser | Ser | Thr | Ser | Asn | Leu | | |
| | 115 | | | | | | 120 | | | | | 125 | | | | | |
| Pro | Leu | Gly | Gly | Phe | Ser | Ser | Gly | Ser | His | Ala | Val | Met | Asn | Gly | Thr | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Phe | Ser | Ser | Ser | Arg | Leu | Phe | Ser | Gly | Gln | Lys | Leu | Glu | Leu | Pro | Ser | | |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | | | |
| Ser | Gln | Phe | Ala | Glu | Ser | Val | Gln | Thr | Ala | Gly | Ser | Ser | Ile | Asn | Pro | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Leu | Asn | Arg | Ser | Thr | Pro | Leu | Leu | Leu | Pro | Pro | Val | Pro | Thr | Gln |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Thr | Ile | Asn | Gln | Val | Asp | Tyr | Ser | Phe | Ser | Thr | Pro | Lys | Asn | Ser | Gly |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Leu | Glu | Ser | Met | Phe | Gln | Glu | Ala | Gln | Thr | Met | Gly | Gly | Val | Lys |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Ala | His | Ser | Ser | Ser | Asn | Ser | Ser | Ile | Asp | Leu | Gln | Gly | Gly | Ser | Lys |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ser | Ser | Ile | Ser | Asn | Pro | Leu | Asn | Asn | Gly | Phe | Leu | Cys | Arg | Ser | |
| | | | | 245 | | | | | 250 | | | | | 255 | |

<210> 1164
 <211> 147
 <212> PRT
 <213> Pinus radiata

<400> 1164

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Arg | Met | Glu | Glu | Pro | Leu | Gln | Ile | Ile | Asn | Ser | Ser | Pro | Ile | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Gln | His | Asp | His | Asp | Asp | Asp | Asp | His | Gly | His | Gly | His | Glu | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Val | Ile | Pro | His | Pro | Leu | Leu | Pro | Pro | Pro | Gly | Asp | Thr | Cys | Ile |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Val | Pro | Tyr | Ile | Met | Pro | Val | Ser | Thr | Ser | Thr | Ala | Glu | Lys | His | Pro |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Pro | Gln | Pro | Thr | Asn | Ile | Ala | Phe | Asn | Gly | Pro | Glu | Thr | Glu | Glu | Asp |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Asp | Lys | Lys | Arg | Asp | Arg | Glu | His | Lys | Lys | Arg | Ser | Lys | Asn | Trp | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Val | Glu | Thr | Leu | Lys | Leu | Ile | Lys | Leu | Arg | Thr | Glu | Phe | Glu | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Phe | Ser | Arg | Ser | Gly | Arg | Lys | Thr | Glu | Leu | Trp | Asp | Glu | Ile | Ala |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Glu | Ser | Leu | Arg | Lys | Glu | Gln | Phe | Phe | Arg | Asp | Ala | Gln | Gln | Cys | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Lys | Trp | | | | | | | | | | | | | |
| 145 | | | | | | | | | | | | | | | |

<210> 1165
 <211> 202
 <212> PRT
 <213> Pinus radiata

<400> 1165

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Gln | Gln | Gln | Pro | Thr | Ile | Pro | Ala | Leu | Pro | Gln | Val | Gly | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Thr | Asn | Pro | Tyr | Ile | Ala | Pro | Pro | Ile | Gly | Gly | Pro | Pro | His | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Leu | Ala | Ser | Tyr | His | Gln | Gln | Leu | Gln | Ala | Phe | Trp | Gly | Asn | Gln |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Met | Arg | Glu | Val | Glu | Gln | Ala | Gln | Asp | Phe | Lys | Thr | His | Ser | Leu | Pro |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Leu | Ala | Arg | Ile | Lys | Lys | Ile | Met | Lys | Ala | Asp | Glu | Asp | Val | Lys | Met |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ile | Ser | Ala | Glu | Ala | Pro | Val | Val | Phe | Ala | Lys | Ala | Cys | Glu | Met | Phe |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Ile | Leu | Glu | Leu | Thr | Leu | Arg | Ser | Trp | Ile | His | Thr | Glu | Glu | Asn | Lys |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | 100 | | | | | 105 | | | | 110 | | | | |
| Arg | Arg | Thr | Leu | Gln | Lys | Asn | Asp | Ile | Ala | Ala | Ala | Ile | Gly | Arg | Thr | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Asp | Ile | Phe | Asp | Phe | Leu | Val | Asp | Ile | Val | Pro | Arg | Asp | Glu | Phe | Lys | |
| | | 130 | | | | | 135 | | | | 140 | | | | | |
| Asp | Glu | Gly | Leu | Val | Ile | Pro | Arg | Ala | Ala | Gly | Ala | Val | Pro | Phe | Met | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Gly | Pro | Gly | Asp | Asn | Val | Pro | Ser | Tyr | Tyr | Tyr | Val | Ala | Gln | Gln | Ala | |
| | | | | 165 | | | | 170 | | | | | | 175 | | |
| Pro | Asn | Val | Ala | Ala | Tyr | Ala | Pro | Pro | Thr | Gln | Gln | Met | Arg | Ser | Lys | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Ala | Pro | Ala | Pro | Pro | Pro | His | Gly | Ser | Ser | | | | | | | |
| | | 195 | | | | | 200 | | | | | | | | | |

<210> 1166

<211> 143

<212> PRT

<213> Pinus radiata

<400> 1166

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Gln | Gly | Ser | Leu | Thr | Leu | Pro | Arg | Thr | Leu | Ser | Arg | Arg | Thr | Val | Asp | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Asp | Val | Trp | Arg | Glu | Ile | His | Lys | Glu | Asn | Ile | Asp | Gly | Asn | Gly | Asn | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ala | Pro | Ala | Asn | Gln | Ala | Arg | Gln | Pro | Thr | Phe | Gly | Glu | Met | Thr | Leu | |
| | | 35 | | | | | 40 | | | | 45 | | | | | |
| Glu | Asp | Phe | Leu | Val | Lys | Ala | Gly | Val | Val | Arg | Glu | Asp | Ala | Glu | Gln | |
| 50 | | | | | 55 | | | | | 60 | | | | | | |
| Gly | Asp | Gly | Gln | Ser | Phe | Gly | Ala | Phe | Arg | Asn | Ala | Leu | Asp | Gly | Glu | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | |
| Phe | Val | Ala | Asn | Leu | Ala | Glu | Arg | Asn | Gly | Asp | Asn | Arg | Leu | Gly | Ile | |
| | | | 85 | | | | | 90 | | | | | 95 | | | |
| Gly | Asn | Ser | Leu | Gly | Leu | Gly | Phe | Gly | Glu | Arg | Gly | His | Arg | Asn | Gly | |
| | | | 100 | | | | 105 | | | | | 110 | | | | |
| Glu | Val | Gly | Ser | Asn | Lys | Ser | Gly | Ala | Gly | Gly | Val | Pro | Gly | Leu | Ser | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Leu | Ser | Pro | Thr | Asn | Val | Phe | Leu | Ile | Met | Leu | Pro | Trp | Ile | Trp | | |
| | | 130 | | | | 135 | | | | | 140 | | | | | |

<210> 1167

<211> 90

<212> PRT

<213> Pinus radiata

<400> 1167

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Phe | Gln | Arg | Arg | Lys | Lys | Lys | Ser | Ile | Gly | Arg | Gly | Cys | Leu | Lys | Thr | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Ile | Asn | Asp | Val | Glu | Gln | Leu | Lys | Ala | Glu | Lys | Leu | Leu | Leu | Lys | |
| | | 20 | | | | | | 25 | | | | | 30 | | | |
| Ser | Arg | Ile | Glu | Lys | Lys | Ala | Ser | Tyr | Phe | His | Glu | Leu | Glu | Glu | Gln | |
| | | 35 | | | | | 40 | | | | 45 | | | | | |
| Ile | Ile | Gly | Leu | Gln | Asn | Leu | Val | Lys | Arg | Asn | Glu | His | Arg | Tyr | Ser | |
| 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ser | Gly | Asn | Thr | Pro | Ser | Gly | Gly | Val | Ser | Leu | Pro | Phe | Ile | Leu | Val | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | |
| Gln | Thr | His | Pro | Arg | Ala | Thr | Val | Glu | Ile | | | | | | | |
| | | | | 85 | | | | 90 | | | | | | | | |

<210> 1168
 <211> 105
 <212> PRT
 <213> Pinus radiata

<400> 1168
 Gly Ile Arg Arg Ala Thr Arg Gln Lys Ser Gly Ile Leu Ser Ser Val
 1 5 10 15
 Leu Ser Asn Gln Asn Ala His Leu Ser Val Leu Ala Ala Ala Ser
 20 25 30
 Ala Val Ala Thr Lys Ser Met Phe His Val Phe Tyr Asn Pro Arg Thr
 35 40 45
 Ser Pro Ala Glu Phe Ile Ile Pro Tyr Gln Lys Tyr Val Lys Ser Cys
 50 55 60
 Lys Gln Pro Leu Ser Ile Gly Met Arg Phe Lys Met Arg Phe Glu Thr
 65 70 75 80
 Glu Asp Thr Ala Glu Arg Arg Tyr Thr Gly Met Ile Thr Ala Ile Gly
 85 90 95
 Asp Ala Asp Pro Ala Arg Trp Pro Gly
 100 105

<210> 1169
 <211> 106
 <212> PRT
 <213> Pinus radiata

<400> 1169
 Gln Asp Thr His Ser Glu Pro Met Ala Met Glu Met Gly Leu Val Ile
 1 5 10 15
 Asp Gly Asp Arg Phe Ser Ser Glu Gly Asp Gly Asp Ile Met Leu Asp
 20 25 30
 Gly Glu Asp Leu Leu Pro Glu Ile Asn Asp Met Phe Trp Glu Gln Phe
 35 40 45
 Leu Ala Glu Ser Ala Thr Ser Gly Gly Thr Glu Glu Ala Glu Ser Ala
 50 55 60
 Ala Gln Glu Ser Leu Thr Lys Asp Gln Asp Glu Lys Pro Ser Glu Asn
 65 70 75 80
 Gly Asn Trp Trp Lys Lys Asn Gln Asn Met Asp Asn Leu Thr Glu Gln
 85 90 95
 Met Gly Gln Leu Ala Ser Glu Ser Asn Pro
 100 105

<210> 1170
 <211> 144
 <212> PRT
 <213> Pinus radiata

<400> 1170
 Asp Gly Ala Val Arg Asp Ala Gly Arg Leu Val Pro Ala Pro Phe Leu
 1 5 10 15
 Val Lys Met Tyr Arg Leu Val Asp Asp Pro Ser Thr Asn His Ile Val
 20 25 30
 Ser Trp Gly Glu Asn Asn Asn Ser Phe Val Val Trp Arg Pro Lys Glu
 35 40 45
 Phe Ser Ala Ser Val Leu Pro Cys Tyr Phe Asn His Ala Asn Phe Ser
 50 55 60

Ser Phe Val Arg Gln Leu Asn Asn Tyr Gly Phe Arg Lys Thr Phe Arg
65 70 75 80
Gly Gln Cys Glu Phe Ser Asn Lys Leu Phe Glu Lys Gly Lys Gln Tyr
85 90 95
Leu Leu Cys His Ile His Arg Arg Arg Ala Ser Asn Ser Ser Pro Met
100 105 110
Pro Met Glu Tyr Gly Lys Ser Ser Leu Leu Phe Pro Ile Ile Leu Pro
115 120 125
Thr Gln His Ser Asn Val Leu Ala Ala Pro Leu Pro Ser Ser Leu Ser
130 135 140

<210> 1171
<211> 62
<212> PRT
<213> Pinus radiata

<400> 1171
Lys Glu Arg Ile Leu Thr Glu Glu Asn Leu Phe Leu Arg Lys Lys Cys
1 5 10 15
Gly Asp Glu His Val Asp Cys Ser Ala Phe Arg Thr Pro Pro Ala Gln
20 25 30
Leu Arg Ser Ile Gln Asn Ile Asp Val Glu Thr Gln Leu Val Ile Arg
35 40 45
Pro Pro Thr Val Gln Gln His Pro Asp Val Asp Ser Pro Arg
50 55 60

<210> 1172
<211> 88
<212> PRT
<213> Pinus radiata

<400> 1172
Asp Pro Asn Ala Pro Lys Lys Ala Met Thr Gly Phe Met Phe Phe Ser
1 5 10 15
Gln Val Glu Arg Glu Asn Leu Lys Lys Ser Asp Pro Gly Met Ala Phe
20 25 30
Thr Asp Val Gly Arg Thr Leu Gly Glu Arg Trp Lys Lys Met Ser Ala
35 40 45
Glu Glu Lys Ala Pro Tyr Glu Ser Lys Ala Arg Ala Asp Lys Glu Arg
50 55 60
Tyr Lys Glu Ala Met Ala Asp Tyr Lys Ser Gly Pro Thr Asn Val Asp
65 70 75 80
Ser Gly Asn Glu Ser Asp Ser Glu
85

<210> 1173
<211> 106
<212> PRT
<213> Pinus radiata

<400> 1173
Leu Leu Phe Gly Val Asn Ile Asp Ser Ser Ser Leu Ile Val Pro Asn
1 5 10 15
Thr Val Ser Asn Met Arg Ser Ile Gly Ser Ser Thr Asp Ala Val Met
20 25 30
Gln Phe Gly Val Ser Asn Tyr Leu Asn Ala Pro Pro Cys Ala Ser Gly
35 40 45

<213> Pinus radiata

<400> 1178

Lys Lys Ala Ser Glu Trp Gly Glu Ser Val Val Ser Thr Ser Glu Asn
1 5 10 15
Ser Asn Asp Leu Asp Pro Pro Thr Tyr Ser Glu Thr Ser Ser Pro Ala
20 25 30
Gln Gly Ser Asp Pro Arg Val Phe Pro Cys Asn Phe Cys Gln Ser Lys
35 40 45
Phe Tyr Ser Ser Gln Ala Leu Gly Gly His Gln Asn Ala His Lys Arg
50 55 60
Glu Arg Thr Leu Ala Arg Arg Ala Gln Arg Met Gly Ser Phe Ala Gln
65 70 75 80
Arg Tyr Ser Ser Met Ala Ser Leu Pro Leu His Gly Ser Ser Glu Thr
85 90 95
Ser Trp Thr Pro Ser Arg Phe Leu Gly Ile Lys Ala His Ser Leu Ile
100 105 110
His Lys Pro Phe Pro Glu Gly Asp Asn Leu
115 120

<210> 1179

<211> 113

<212> PRT

<213> Pinus radiata

<400> 1179

Met Thr Gln Ala Thr Asn Tyr Thr Ala Gly Thr Ile Arg Asp Asp Gln
1 5 10 15
Glu Glu Gln Cys Val Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Met
20 25 30
Ser Leu Ile Arg Cys Val Thr Thr Arg Gly Glu Gly Arg Trp Asn Thr
35 40 45
Val Ala Lys Phe Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu
50 55 60
Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn Ile Thr
65 70 75 80
Pro Glu Glu Gln Leu Leu Ile Leu Glu Leu His Arg Leu Trp Gly Asn
85 90 95
Arg Trp Ser Lys Ile Ala Arg Gln Leu Pro Gly Arg Thr Asp Asn Glu
100 105 110
Ile

<210> 1180

<211> 76

<212> PRT

<213> Pinus radiata

<400> 1180

Met Arg Arg Pro Gln Arg Lys Lys Lys Thr Asp Ala Glu Asp Asp Phe
1 5 10 15
Asp Glu Cys Tyr Tyr Thr His Met Cys Lys Ile Cys Lys Lys Lys Phe
20 25 30
Val Ser Gly Arg Ala Phe Gly Gly His Met Arg Ile His Gly Pro Val
35 40 45
Ala Thr Ala Ala Ala Ala Ala Ala Glu Ser Asn Gly Lys Asn Leu Glu
50 55 60

Pro Gln Arg Lys Arg Ser Arg Ala Glu Glu Ile Arg
65 70 75

<210> 1181
<211> 130
<212> PRT
<213> Pinus radiata

<400> 1181
Val Gly Cys Lys Gly Ser Asp Ala Phe Glu Glu Ser Leu Lys His Phe
1 5 10 15
Cys Arg Val Cys Lys Arg Arg Phe Ala Cys Gly Arg Ala Leu Gly Gly
20 25 30
His Met Arg Val His Gly Ala Glu Leu Gly Ala Ile Lys Gly Gly Gly
35 40 45
Leu Glu Glu Gln Phe Glu Lys Gly Arg Val Lys Glu Pro Ser Arg Ser
50 55 60
Cys Gly Asp Ser Val Lys Glu Gly Val Gln Asp Glu Val Glu Gly Leu
65 70 75 80
Asn Ser Met Tyr Thr Leu Arg Arg Asn Pro Lys Arg Ser Trp Arg Phe
85 90 95
Ala Asp Gln Asp Tyr Ser Phe Ala Phe Gly Gly Val Asp Gly Ser Gly
100 105 110
Ala Lys Arg Phe Gly Ser Thr Phe Leu Arg Asp Ser Arg Val Cys Glu
115 120 125
Glu Cys
130

<210> 1182
<211> 86
<212> PRT
<213> Pinus radiata

<400> 1182
Arg Asn Tyr Leu Gly Glu Tyr Thr Gly Glu Leu Ile Ser His Arg Glu
1 5 10 15
Ala Asp Lys Arg Gly Lys Ile Tyr Asp Arg Glu Asp Ser Ser Phe Leu
20 25 30
Phe Asn Leu Asn Asp Gln Tyr Val Leu Asp Ala Tyr Arg Lys Gly Asp
35 40 45
Lys Leu Lys Phe Ala Asn His Ser Pro Thr Pro Asn Cys Tyr Ala Lys
50 55 60
Val Ile Met Val Ala Gly Asp His Arg Val Gly Ile Phe Ala Lys Glu
65 70 75 80
Arg Ile Ala Ala Gly Glu
85

<210> 1183
<211> 462
<212> DNA
<213> Eucalyptus grandis

<400> 1183
acaaacaaac aaacaagacg gaacgagatg aagacggttc agtcgaagaa gttcaggggc 60
gtcagacagc gtcactgggg ctcttggggt tccgaaattc gccatcctct gttgaagaga 120
agggtgtggc tgggcacggt cgagacggct gaggaggcgg cagagccta cgaccaggcc 180
gccatcttga tgagtggccg caatgcaaag accaacttcc cgacatctca aaccacgaac 240

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| ggcgacccccg | ccgctgccaa | tctctgtct | tctcgaagc | acttgctgga | gatcctccac | 300 |
| gcgaantcaa | ganatgcagc | aagacgccgt | cgccatccct | cacctgccta | aggctcgaca | 360 |
| ctgagaactc | ccacatcgga | gtctggcaga | aggggtgccg | ccagcgtcag | actcaactgg | 420 |
| gtatgaccgt | acagtcggaa | caaaaatccg | atccattggt | ag | | 462 |

<210> 1184

<211> 340

<212> DNA

<213> Eucalyptus grandis

<400> 1184

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| gactccccct | atccccctct | tttctccctc | tcaagaatca | agagattact | atggaaagcg | 60 |
| aacgctacga | tgagacgaca | gaggggcagc | gaatcaagag | aaggccgcac | cagcagcagc | 120 |
| agcagcagca | gcagcggcgg | cagaagcctt | acaggggtat | ccggatgagg | aagtggggca | 180 |
| agtgggtggc | cgagatcagg | gagcccaaca | agcgtcccg | catctggctc | ggctcctatg | 240 |
| ccacccccgt | ggccgcgcgc | cgcgccctacg | acaccgccgt | cttctacctc | cgcgccccct | 300 |
| ccgccccgct | caacttcccc | gacctcatct | ggcgcgaggg | | | 340 |

<210> 1185

<211> 190

<212> DNA

<213> Eucalyptus grandis

<400> 1185

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| cttgggggttg | acatggcgcg | acgtggcgga | ggaaggaggg | gaacggcggc | tccgaggcgt | 60 |
| ccgacgccgt | cttgccgcga | gctcatcatc | gccatcgta | caagggagtg | aggatgcgga | 120 |
| agtgggggaa | gtgggtggcg | gagatacggc | agcccaacag | ccgggaccgc | atctggctcg | 180 |
| gctcctacgc | | | | | | 190 |

<210> 1186

<211> 473

<212> DNA

<213> Eucalyptus grandis

<400> 1186

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| aacaaaggtn | tgtgtatgga | accattcttg | atagcattgc | aaaggttact | ggaattgtga | 60 |
| agtttgatct | gcatgctgag | ccagaggaag | gaaaaaagaa | gattgaggtc | ggaggaaatg | 120 |
| ttgcagggtg | gtttgacctt | ggaccaggta | gaattnggtt | ctgaagctgt | ttttgtccct | 180 |
| cgagagcctg | gcatcacttc | tgaagaagat | gatgggtacc | tgatattctt | tgtccatgat | 240 |
| gaaagcacag | ggaagtcggc | agtaaatgta | attgatgcga | aaaacatgtc | atctgatcct | 300 |
| gttgctgtcg | ttgaattacc | ccataggggt | ccttatggct | tccatgcctt | cttcgtgact | 360 |
| gaggaacaac | ttcaggaact | ggctaagctg | taggtctcta | catgcacgaa | ttgttgggaa | 420 |
| tgcagatggt | gcgaggggag | gcatactctt | ggaaagctgc | tacagttgat | cta | 473 |

<210> 1187

<211> 333

<212> DNA

<213> Eucalyptus grandis

<400> 1187

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| accagatcca | gatgcagagg | tcattgcact | atcgccaaag | acgctcatgg | cgacgaacag | 60 |
| gttcgtttgc | gagatatgca | acaaaggctt | ccagagggac | cagaacctgc | agctgcaccg | 120 |
| gagggggccac | aacctgccat | ggaagctccg | gcagaggagc | aaggagatcg | tcaagaagaa | 180 |
| ggtttatata | tgccctgaga | agacgtgctg | gcaccacgac | ccttcaaggg | cacttggcga | 240 |
| cctcactggg | atcaagaagc | acttcagccg | gaagcatggc | gagaagaagt | ggaagtgtga | 300 |
| gaagtgtctg | aagaagtacg | cagtcagctc | aga | | | 333 |

<210> 1192
 <211> 310
 <212> DNA
 <213> Eucalyptus grandis

<400> 1192
 ccctcttcct cttcctctcc ctctctctgt cgcagagctc cgtctgaact cgcagaatcc 60
 acgcgcagag cgacccaaga gtgtttcaga acagtccgtc catggccttg gaagctatca 120
 actctcccac cgcgccctca gcgcggttcc agttcatgga ggagcccttg agctcccgtc 180
 tcttgagacc cctgaacaag cgcaagcgct ccaagcgccc ccaccaccct ccctccgaag 240
 atgagtacct cgccctctgc ctcctcatgc tcgcccgcag cggcgccgcc cccaagccca 300
 accaccacgc 310

<210> 1193
 <211> 466
 <212> DNA
 <213> Eucalyptus grandis

<400> 1193
 tttttttttt tttttattca aaaacaaaat ctcacttgcc ctttcttaat atatagtagc 60
 caaagccttc tggagatcac cttttatcag ctaccaccag tcagataggt ctattgaata 120
 tgcttgattg ctggttcctc aagcatatgc aactacaaag actcccatat caaagcacta 180
 gctgcatata cacttttaag ctaactaaca agagaattta aaaagaaaat cctcgctgca 240
 ccaaaaaggc tcgatccata tgggcaccaa aacaaatagc tcacattggc ataagctttg 300
 gaccattatc aggcattgcc atccctgcag ctaactcagc atcaagctga gtatgtggcg 360
 caggacccat catttgcttc atacgtttct tgtggcgctt cgtcttgaaa tgctcgctcc 420
 tcgtagcaac attcggaata tatcggtcgc agtgcaggca atagta 466

<210> 1194
 <211> 295
 <212> DNA
 <213> Eucalyptus grandis

<400> 1194
 gccacccaac acacacccaa gaaaattctt agagcctcct tagatatgcc tacagacctg 60
 gacaattcgt ccacagcttc aggggaagct agtgtctcgt cttctggcaa tcagccgcct 120
 ccacaaccac cgccaccgcc ttccaccacc aagaaaaaga ggaatctccc tggaatgccc 180
 gatccagatg cagaggtgat agctctgtct cccacgacct tattggccac caacagggtc 240
 gtctgcgaaa tctgcaacaa gggatttcag agggaccaga acttgacgct ccaca 295

<210> 1195
 <211> 337
 <212> DNA
 <213> Eucalyptus grandis

<400> 1195
 tccaccctca ctgcggaagt caaaatcttc tagtgtagcc atattcttga tgaacattca 60
 cacgcaacta ccgtcggacg tgcgggtgcc gacgcggcg cagtcgtctt cgccgtcccc 120
 gtcgcagtcg tcgcagtcgg agtcctccgc gagccacgcc gcgtgctccg acgaggagcc 180
 ggccgtggcg ctggcttcca gccggcccaa gaggcgggct gggcggaagg tcttcaagga 240
 gacgaggcac ccggtgtacc gtgggggtgcg gcggcggaac aggggcaagt ggggtgtcga 300
 gctccgggag cccaacaaga agaccggggt atggctc 337

<210> 1196
 <211> 450
 <212> DNA

<213> Eucalyptus grandis

<400> 1196

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gaatgatgca | tgtgatggac | cggtaacagg | acttgactg | tcaaagtgcc | gnacgctcat | 60 |
| cggtctgcc | gaaactcacg | gagagagaga | gatggcggag | agagaggaga | aggggaagta | 120 |
| cgacgagatg | atgatgaaga | aggggagcga | cgganggata | gcggaggtga | atcccacgcc | 180 |
| gaagaagggg | gtgacgtcca | aggttgtgga | ctacattgag | aagctgatcg | tgaagttcat | 240 |
| gtacgactcc | tctctgcctc | accaatacct | cgccggcaac | ttcgctcccg | tcgccgacga | 300 |
| gacccctccc | gtcaccgacc | tccccgtcgt | cgcccatctc | cctgattgct | tgaatggaga | 360 |
| attcgctcgg | gtgggcccc | atcccaagtt | tgccccggtc | gccggatacc | actggtttga | 420 |
| tggagatggc | atggntcatg | ggatgcgga | | | | 450 |

<210> 1197

<211> 351

<212> DNA

<213> Eucalyptus grandis

<400> 1197

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| ctccagccag | cttctgtctc | ttataaacac | tagccccacc | ccattcatta | tccacttcac | 60 |
| tccaacccaa | cagctatcgc | actatcccac | tgcagacgcc | ctcccacgaa | ccctttctct | 120 |
| tctgatcccc | atcccactc | ctgccgttcc | gacttcccca | agccgtcctt | ctcgctcgccg | 180 |
| ctgtccaacg | ggagtagcgc | catggcagcc | cccgggaact | tctccgacga | ggaggtgcgc | 240 |
| ctcgctccc | accacccaaa | gaagcgcgcc | gggaggaaga | agttccggga | gacgcgccac | 300 |
| cccgtgtacc | ggggagtgcg | gctgcgtgac | tcgggcaagt | gggtctgcga | g | 351 |

<210> 1198

<211> 359

<212> DNA

<213> Eucalyptus grandis

<400> 1198

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| agaacacctc | agaatcaaca | ccactcccca | atttctctct | ctaagatccc | acacccaacc | 60 |
| gccaccctca | atctctctct | ttctctctct | tcttcagtgt | ctgccatggc | tttggaggcc | 120 |
| ctcagctccc | ccaccgctcc | ctccgccccg | ttccaattca | tgaaggactc | ctccccgcc | 180 |
| gcgcgcgcgc | ccgcctcctc | ctcctcctcc | gcctacgacc | tccccctcgc | cgagccctgg | 240 |
| gccaagcgca | agcgtccaa | gcgccccac | aaccgcctct | ccgaggacga | gtacctcgcc | 300 |
| ctctgcctca | tcattgctcg | ccgcggcgcc | gccggcgga | ccctcccccc | gcgcctcc | 359 |

<210> 1199

<211> 645

<212> DNA

<213> Eucalyptus grandis

<400> 1199

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tcgactgaga | gatcctagt | gaaatagaag | atttctctct | accatcgatc | cattcttctc | 60 |
| caatggctgc | gaatttcgtc | attccaacca | aaatgaaggc | ttgggtgtac | cgtgagcacg | 120 |
| gagacgtcgc | caacgtattg | ggattggacc | cggaactcaa | ggccctgaa | ttgcaagaag | 180 |
| gccaagtgtc | ggttaaagtt | cttgccgcgg | cgctcaatcc | aatcgacacc | gcgagagtga | 240 |
| anggggggta | tcaagctccc | ggcttttctc | taccggccgt | gccaggttac | gatctcgccg | 300 |
| gcgttgtggt | gaaggtgggc | cgcgaagtaa | aggagctcaa | ggtcggggac | gaggtatatg | 360 |
| gatttatgtt | tcacgccaa | aaagacggga | cgctggctga | gtacgcagcc | gtggaagagt | 420 |
| cattcttggc | tttgaagccc | aagaagctgc | gtttcgggga | ggctgcttct | ctgccgtggt | 480 |
| cattcagacc | gctatggagg | ccttgaaaga | actggcctct | ctcatggcaa | gtcccttctt | 540 |
| cgtcttaagt | ggtgctgggt | gcgtcgccac | actcataata | cagctagctt | aaggaagttt | 600 |
| tgggtgatca | agagttccag | ttcattcaac | actgggaaac | ctaga | | 645 |

<210> 1200

<211> 376
 <212> DNA
 <213> Eucalyptus grandis

<400> 1200
 tttttttttt tttttgtgta ctggtgcact atgaattgtg agcattcaat caaactatat 60
 atagacaaca ttcttcctta tataggcggg agcaactacg gngttgacag caaaatttac 120
 aaagccagca gctagcacag gatgtcaaga ttcacctcca aaccgataaa gtcgacatgg 180
 ctctattaat ccagccaaga tatagagccc cctccctctg ctcgattctg taattcccgt 240
 gatactgctt cagcatatcg agcacagcac gagtaaccga tgcgtccact ggtagctgat 300
 tgaaaccggc catttggaat ctggaccgcc atttgccgaa aagctcatgc ctttccatcc 360
 tctcangccc atcaca 376

<210> 1201
 <211> 461
 <212> DNA
 <213> Eucalyptus grandis

<400> 1201
 cgacaccgac cagggtgttc atgtattgtt tgtatacaac cccccagtgg aaagggccca 60
 aaacacaagc caacatgcac atgtaatgtc tgtctgaccg taaagcgccg tttccgcacc 120
 ttgatgctga ggcgcgaaaa gaaacagttg gagaaagaag ggaaggttc gcgcaagaag 180
 ctgcaacatc agaacctatc acttgcagaa aaatcaccgg aagacgacct ttcaaagtgc 240
 aataacaaca atgcaaatgg cagcccaagc cagaaaaagg tgggcaatga tggttccgac 300
 gacgaaatga acaggggttaa aagctcgggt tcacctttta aaggtcagat cgatcttaat 360
 attcagccag agcgcgagga ggagctctcg cctgggtcag attctgggtg tatgatgaag 420
 ttgctacatg atgccacca gaatatctca ggcagagggc t 461

<210> 1202
 <211> 447
 <212> DNA
 <213> Eucalyptus grandis

<400> 1202
 ggaagtacga cgagatgatg atgaagaagg ggagcgacgg agggatagcg gaggtgaatc 60
 ccacgccgaa gaaggggggtg acgtccaagg ttgtggacta cattgagaag ctgatcgtga 120
 agttcatgta cgactcctct ctgcctcacc aatacctcgc cggcaacttc gctcccgtcg 180
 ccgacgagac cctcccgtc accgacctcc ccgtcgtcgg ccactctcct gattgcttga 240
 atggagaatt cgtccgggtg ggccccaatc ccaagtttgc cccggtcgcc ggataccact 300
 ggtttgatgg agatggcatg gttcatggga tgcggataaa aaatggcaaa gctacttacg 360
 tctctcgcta tgtgaggacg tcgaaactta agcaagagga gtactatggg ggagctaaat 420
 ttatgaagat tggagacctt aaagggc 447

<210> 1203
 <211> 454
 <212> DNA
 <213> Eucalyptus grandis

<400> 1203
 catattttca tgctgctacg ccccgctcctt tggcctgcat ccatggccaa tcagccaccc 60
 ggtgagcccc aaccaaattc gccaccgcca ccgccaccag cccagcgat ccaaattcct 120
 gaccaaccac cgcataattc gccttcttct tcttcttctt cttcttcttc ttcttcttca 180
 ttggccacca ccggtgatcg gggcggttcc tcgcctagac cgatgctttc tccgagcggg 240
 tcgtcgccgc tggctcaatc cacagggagg caccgccttt accgtggagt ccggtcccgc 300
 agcgggaagt ggggtctccga gatccgcgag ccccgcaaga ccaccgcat ttggcttggg 360
 acataccgca atcccagat ggccgcgcgc gcctttgacg tggccgcgct ggctctgaaa 420
 ggctccgacg ccgccttgaa cttcccccat gatg 454

<213> Eucalyptus grandis

<400> 1208

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ctttctgctg | gacggaaacc | actttggggc | agctcgatcc | ccgtgatgcg | caactttggg | 60 |
| gggccaccag | gtctccttgc | gaggcaatga | atgagggcgg | gccattgaaa | accataaagg | 120 |
| ataccaaaat | cgataatatg | cagtttcgtc | gctttctcag | atatgcttaa | aatcatatgg | 180 |
| ttagaataga | tgatcgcaaa | cctctgaaat | gggaaaactg | agagataagc | tcggtaagct | 240 |
| ttcaacattt | cagtagcaga | tttccttttg | gagcctaact | ccgtatagac | ttgcgctcct | 300 |
| gtgcaatcca | tgctgcctt | aagggtctcg | gcaaaagag | | | 339 |

<210> 1209

<211> 405

<212> DNA

<213> Eucalyptus grandis

<400> 1209

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| aaaccctgca | attcaggaaa | agaaaccctt | ttttgatctc | tctccatctg | ctccgatggg | 60 |
| cgggttcggag | gggatgaatt | cttgaaaaac | aaggaggaac | gatcgtctcc | tttcttgggg | 120 |
| gggctgggga | ttggggggag | gaatgggggc | gcagcacaac | tcaggacgaa | cccggaatgg | 180 |
| gagacccatg | tgatcctgaa | cgtgtacgat | ctcaccctcg | cgaacagcta | caccgcctgg | 240 |
| tgcggcctgg | gcatcttcca | ttccggcatt | caagggtctc | tgtgtagtgg | cattcttcca | 300 |
| gaaagccttc | aagtaactac | tgtaagcca | gagtatcatg | acttctccga | ggaagatggg | 360 |
| gctgaatctg | tgctgactgt | gactaccgag | atagatgacg | ccgag | | 405 |

<210> 1210

<211> 521

<212> DNA

<213> Eucalyptus grandis

<400> 1210

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| tccttccttc | tccttctcct | tctccttcgt | ctccttcaga | catgtcgctc | aaccaccccc | 60 |
| tctctacttc | agacggcacc | cccaacactc | tctggtggac | cactcacccc | accatgttcc | 120 |
| gccagcacia | cctcctcctc | aatttcaacc | ccaccgacga | cgaccgcgaa | gacgagggct | 180 |
| cgcctccgcc | gcctacgtc | ctccgagggg | cgccgccacc | ggcgagagcg | tcgcctgcag | 240 |
| agaaagagcc | catgttcgag | aagccgctga | cgccgagcga | cgtggggaag | ctgaacaggc | 300 |
| tggtgatacc | gaagcagcac | gcggagaagc | acttcccgtc | ggtgggagag | gcgaccagc | 360 |
| agctgagctt | cgaggacgag | tccgggaagt | ggtggaggtt | ccgctactcc | tactggagca | 420 |
| gcagccagag | ctacgtcctc | accaagggct | ggagccgctt | cgtcaaggac | aagcgctcgc | 480 |
| acgcccggga | cgtgggtcctc | ttcaccgcga | ccgcgccgac | g | | 521 |

<210> 1211

<211> 537

<212> DNA

<213> Eucalyptus grandis

<400> 1211

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttcgaaaatc | ccatttcctc | tcgacctgtg | tagcttgcaa | ctcttgaggt | cttgatagag | 60 |
| aaggagagag | aaggagaaag | agtgggtgat | gggtttcggg | ggaagtggga | gcgtgcccg | 120 |
| gaaggcgtgc | gactcgtgca | agaccgcggc | ggcgccgctg | ttctgccg | ccgacgggc | 180 |
| gttcctgtgc | ctcggtgtgc | acgcccgggt | ccacggggcc | gccaagctgt | ccgcgcgcca | 240 |
| cgagcggtg | tggtgtgtgc | aggtctgcga | gcaggccccc | gccgcccgtc | cctgcaaggc | 300 |
| ggacgcgcg | gcgtctgtgc | tcacctgcga | cgccgacatc | cactccgcca | acccctcgc | 360 |
| ccgcccgcac | gagcggtgtc | ccgtggagcc | cttcctcgac | gccgcccagt | ccatctccag | 420 |
| ggccgcctcc | gccttcaact | tcctcgccgt | gcctaccaag | accggcagcg | ccgacacgtg | 480 |
| cggcgccggc | ggtggcggtc | tcggcggtc | gtgccagaat | gaggagctgg | aggaagc | 537 |

<210> 1212

<211> 399
<212> DNA
<213> Eucalyptus grandis

<400> 1212
ccgaaacgcc tttttcctca catttcccat ctccttttcc aagaagcgaa gcccgaaaag 60
tccaatcccc gttcttccaa accctgcaat tcaggaaaag aaaccccttt ttgatctctc 120
tccatctgct ccgatggctg gttcggaggg gatgaattct tgaaaaacaa ggaggaacga 180
tcgtctcctt tcttgggggg gctggggatt ggggggagga atggggggcg agcacaactc 240
caggacgaac ccggaatggg agacccatgt gatcctgaac gtgtacgac tcacccccgc 300
gaacagctac accgctgggt gcggcctggg catcttccat tccggcattc aagtgcattg 360
taaaggaata tggctttgga gcgcacgact tttccagct 399

<210> 1213
<211> 283
<212> DNA
<213> Eucalyptus grandis

<400> 1213
ccccattttc cgttttctcc catattcctc aagcactctc atttagggaa tgagtgttta 60
gaagccacct caagtttcaa atttttttcc tgcgcagttc tcaattcaaa tggcacgtag 120
ctcatgtaat cagaaactga ggaaagggtt atggctgcct gaagaagacg agaaactggt 180
caattatata agtagacatg ggttgggatg ctggagttcg gttccgaagc tagctgggtt 240
gcagagatgt ggaaagagtt gcagattgag gtggatcaac tat 283

<210> 1214
<211> 324
<212> DNA
<213> Eucalyptus grandis

<400> 1214
ttttcaagaa gcacgcccac gtaacggggg aaatgctgag ggagaaccca tctgacgggt 60
ctttttgttg aggggaaggga aagagagagg aggcagaggg aggaaggaat ccgcagcagc 120
agtcgtcgga ggaggaggac attttccagg tgaaccccaa gtagaattgc gatattgggt 180
tattcgtaat gggctgcgtc gcttcaagaa ttgatgaaga agagagggtt cgggcgtgca 240
aggagagaaa gaggctgatg aagcagttgc tgggtgttag ggaagaattt gctgatgccc 300
tggtggctta cttaagagcc ctga 324

<210> 1215
<211> 358
<212> DNA
<213> Eucalyptus grandis

<400> 1215
tttaatggcc ttgacgcagg ggaggggaga ttttctgaac ttggggagat ggtagaatag 60
ctgccgaggt gtcaactcat gtcagaattc tgactgatct ggggatcttg ctctcaaaga 120
ggatttctaa gagcagtatc tcaacttggc atacgttcag caactggaaa atagtaggtt 180
caggcttatg caactggaac aggagcttca acgagcacgc cagcagggtt tatttggttag 240
ttctggaaat cctggggatc tcagtcataa catggctgcc attggcaatg gggccatggc 300
ctttgacacc gactatgccc ggtggctcga tgagcatcaa cggctgatca atgaccta 358

<210> 1216
<211> 329
<212> DNA
<213> Eucalyptus grandis

<400> 1216

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ccgctgtggc | aagagctgcc | gcctccggtg | gatcaattac | ctgcggccgg | acctcaagcg | 60 |
| gggcaacttc | accgaagaag | aggatgagat | catcatcaaa | ctgcacagcc | ttcttggtaa | 120 |
| caaattggtc | ctcattgctg | ggcgtttgcc | ggggagaacg | gacaacgaga | tcaagaacta | 180 |
| ctggaacacg | cacataagga | ggaagctttt | gaaccgaggg | atcgatccgg | ccactcacag | 240 |
| gctgatcaat | gagcccgcac | aagatcacca | tgacgagccc | accatttctt | ttgctgctaa | 300 |
| ttctaaggag | atcaaagaga | tgaagaaca | | | | 329 |

<210> 1217
 <211> 346
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 1217 | | | | | | |
| aagaacgtcg | ccccatcaac | tccacccggc | gttttcaaga | actcgagag | atcaagaact | 60 |
| cgagccggct | tctgcagcgt | gcaccgttat | gccgtcggag | tgccgagacc | gcaagcccg | 120 |
| gaaggccccc | cacggcggcc | acctccacgc | ggccggggcg | ggggccgccc | cgccgcagcc | 180 |
| gcaggagcag | gagcacctcc | cctgcccgcg | ctgcgactcc | accaacacca | agttctgcta | 240 |
| ctacaacaac | tacaacttct | cccagccccg | ccacttctgc | aagtccctgc | gccgctactg | 300 |
| gaccacgggc | ggcacctca | gggacatccc | cgtcggcgcc | ggcagc | | 346 |

<210> 1218
 <211> 468
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 1218 | | | | | | |
| aaactgggat | agatggcggg | cagacgatga | aaacgttgat | aggagctta | atgataatct | 60 |
| aaatgcacct | tcataccctc | ctcaccaacc | tacgcaatct | tatccaagag | gaggctatag | 120 |
| agtatgtagt | ggctgcaacc | gtcaaataag | ctatggcaac | tatttggtat | gtatgggaac | 180 |
| tttcttccat | ccggaatgct | ttctctgtcg | tgcttgacag | tacccattc | aagaatatga | 240 |
| gttttccctta | gcaggaaagg | atccttatca | ccagtcttgc | ttcaaggagt | tgacacatcc | 300 |
| aaaatgtgaa | gtttgccatc | aatttatccc | aacaaatgga | gttggtttga | ttgagtatag | 360 |
| atgccatcct | ttctgggtcc | agaaagtact | gtccgtcgca | tgagcttgac | aaacacagct | 420 |
| ccgatgggtg | tagttgcaa | cggtttgag | gcatgggaac | accaccat | | 468 |

<210> 1219
 <211> 162
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 1219 | | | | | | |
| tgaggtagat | attcttgacg | atgggttatcg | ctggcgcaag | tatgggcaga | aagttgtgaa | 60 |
| gggaaacccg | aacccaagga | gttactacaa | gtgcacaagt | cctggctgca | cggttaggaa | 120 |
| gcacgtagag | agggcgctac | atgaccttaa | gtcagtaatt | ac | | 162 |

<210> 1220
 <211> 354
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 1220 | | | | | | |
| gcctggcatc | acttctgaaa | gaagatgatg | ggtacctgaa | tattctttgt | ccatgatgaa | 60 |
| agcacaggga | agtcggcagt | aaatgtaatt | gatgcgaaaa | acatgtcatc | tgatcctgtt | 120 |
| gctgttggtg | aattacccca | tagggttcct | tatggcttcc | atgccttctt | cgtgactgag | 180 |
| gaacaacttc | aggaactggc | taagctgtag | gtctctacat | gcacgaattg | ttgggaatgc | 240 |
| agatgttgcg | aggggaggca | tatctctgga | aagctgctac | agttgatcta | atagtttgat | 300 |
| atttacatgg | acagacatct | ttatgctaaa | tatagtggaa | atataaagta | tggt | 354 |

<210> 1221
<211> 310
<212> DNA
<213> Eucalyptus grandis

<400> 1221
gcggaggagg ggctgagtcg gaaattgggg aactcggttg cttgcgaagg tagggaccgg 60
gtcgaaagat gcgaggtggt cggaagtgg agggcccgcg tggggatggc tgggttcgag 120
ctgaagccac tgggtcaaca cgtggccgaa tcaatgaagg cgaggctcga aagtgggaac 180
cgggtcaacc cgggattcac ggtgaaagaa gagaatgggt ggatttgctt cggctggctc 240
ggccgaacac tcaccgtcgc atccgcctgg cgttaagctc cactcgtcc ccctctctcc 300
cccctgtgca 310

<210> 1222
<211> 315
<212> DNA
<213> Eucalyptus grandis

<400> 1222
atttcagatc ccatcatgna tgcattgact tgcattaca gagaattatg caattttcat 60
ggatcttctt ctttatttca ggccaagga aatgggtana gataacaagc taatatttac 120
atttgataaa accaaaaaat ctgcgtttgg ggtacttcca cgatatgcaa agaacgagct 180
tcaaatcaga tggtttgagc ttccaaactg cttcattttt cacaatgcca atgcatggga 240
ggaggaagat gaagttgttt tggttacatg ccgtcttgag aatcttgatc tggacatggt 300
cagtgggact gtcaa 315

<210> 1223
<211> 393
<212> DNA
<213> Eucalyptus grandis

<400> 1223
gcttaatcct caaagaaagt gaagctaccc ttcgtgaagc tcttcggaac atgatgcaga 60
atggcaaatc gaaagtgcc aatgagggga agggccacgg caagaagcaa ggcaggcgca 120
agagggatgt ggtcgacttg agaactcttt tgacactttg tgcacaagct gttactatgg 180
atgatcgagg aagcgcaggt gagctgctca agcagatcag aaggcatgct tctccacag 240
gggacgggat gcaaaggatg gcacactatt ttgcgaatgg tctgcaggca cgccttgccg 300
ggtcaggctc tcaaatTTTT aaggctctca tggctaggcc aagatcggct gttgatgtct 360
tgaagggtta tcatctcctc ctcacaattt tgt 393

<210> 1224
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 1224
gagaaatcct catcatccgt caaggcaatc tcggatcctc aagccagcca ctgnagaagt 60
gttcgtagca tctcttctca aagatctagc cgagatcccc ggccttcttc aagcagctta 120
cgatctttac aagtgggacc ttcagaagag agactgccat cagtcgcaga tggttactca 180
agacattcga ggccactttc tgccatagga tggcgtaata atgatggggc tcggagatca 240
agggtatcta ctgaaagatt tcggctgctt cctgatgaag gaagtggccg tgatcaatta 300
gaatatgagg gattcatgat tgccgatcgc ccaggtt 337

<210> 1225
<211> 226
<212> DNA

<213> Eucalyptus grandis

<400> 1225

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| tggttgacc | atgtacacac | acagtgtggt | aaagcaggct | ttgggatgct | caagcaagag | 60 |
| aatctgagca | atgaactaga | taggggtcaaa | aaggagaacg | acaacttgca | gattcagctc | 120 |
| aggcacctga | gagngaagac | ataacatcac | tgaaccacag | agagctgata | atcctagaag | 180 |
| acactcttga | aaacggcctc | ggatgtgtcc | gagaccagaa | ggacga | | 226 |

<210> 1226

<211> 415

<212> DNA

<213> Eucalyptus grandis

<400> 1226

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| cggaccgcca | ggactgcacg | gtggcggtgcc | ggatgttcgg | gccgggggtgc | ttcggggggcg | 60 |
| agcccttctt | cgtggcgagg | gatccggacg | attcggaggc | ggaggaggac | gacggctacg | 120 |
| tggtgagtta | cgtgcacgac | gagcgcaaag | gggagtcgag | gttcctgggtg | atggatgccca | 180 |
| agtcgccgga | gctggacatc | gtggcctccg | tccggctacc | caggcgggtg | ccgtacgggt | 240 |
| tccacgggct | attcgtgagg | gatagccacc | tcaaaatgtc | ttagcgttca | tgggcatga | 300 |
| tgcgacgtgg | aggtacagag | attgggggtct | tttattacag | gattttacgt | agtctagagc | 360 |
| atgatacaaa | gctatatccc | accaacatgc | cgcagttaaa | ttaggtgggg | tagtt | 415 |

<210> 1227

<211> 389

<212> DNA

<213> Eucalyptus grandis

<400> 1227

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| acattcatgg | ggatatgcag | cctccaacat | tcattctcagc | aggcggagga | ggcgtgtgcc | 60 |
| caggggctag | aacagctcca | acagtcactc | gtcgacacca | ttgccggcgg | gccagcatc | 120 |
| gaaggaatgc | aacagatggc | aatcgctttg | ggcaaattaa | ccaatctcga | aggctttggt | 180 |
| cgacaagctg | ataacttngn | gcaacatacc | cttcactcact | gncgccggat | actgagagtt | 240 |
| cgacaagccg | cacgcgattt | tttgggtgac | ggagagtatt | atgggtcgact | acgagcattg | 300 |
| agtactctat | gggcgtctcg | tcctcgaggg | tgcatgatgg | atgatgataa | ctcacgcaa | 360 |
| acaacaacgg | acctgcaaat | tgttcagggt | | | | 389 |

<210> 1228

<211> 435

<212> DNA

<213> Eucalyptus grandis

<400> 1228

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cttcaccggc | actaggaatc | agggcttctt | ggagggattt | gggttctcca | cctcgtcgtc | 60 |
| cacgttgctg | gaaactgcga | accgggggga | gaactccggg | agtgccgggg | tggtcagatt | 120 |
| gaactcgagg | tgcccttgac | tttgctgag | ttgacgccac | gccctccgag | acgtcaccc | 180 |
| tggtggcagt | caaggcgacg | gcgacgcgac | ggcggctgag | gagacaggag | ttggggcctc | 240 |
| atagtggtag | ctcgtgcccc | ccgagagctt | ggccggtagg | ggagctcttg | tggcagatcg | 300 |
| agcactcgtg | gaccttcccc | gacataccgg | aggaggtggt | cgtcgcggag | gtcgaggtgg | 360 |
| ccggctgttc | gtccgcaccg | gcgaagagaa | agtgtgttgg | tatagaggcg | agaggagaga | 420 |
| gaagagagag | aagaa | | | | | 435 |

<210> 1229

<211> 252

<212> DNA

<213> Eucalyptus grandis

<400> 1229

| | | | | | | |
|-------------|-------------|------------|-------------|------------|------------|-----|
| taggagaccg | catcctacgc | cgccgnggcg | nanggcggcg | ccacgaggag | atgccagggg | 180 |
| aaggaaatcaa | ttacttcctc | gttactggcc | caggataaca | gatcaagagc | tacaacaaat | 240 |
| ctctggagag | tatccttttg | ttctatgtgc | tttgattgat | ttatagcaac | tcctagaaag | 300 |
| gtgaattatc | gcgcgtcaat | agaacagggg | taggattttca | atagatagga | tgaaaagccg | 360 |
| ggaaggttca | gtttcacctc | tgctactaat | tagcattcat | gacccatttc | cttaactttt | 420 |
| ataagctcaa | actctgtaat | cactcctctg | tttgagaaaa | tggtgagtgc | tagtgatgca | 480 |
| ggtaaaattg | gacgttttagt | gctgccaaga | aaatgtgccg | aggcctattt | tccggctat | 539 |

<210> 1238
 <211> 520
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 1238 | | | | | | |
| tctggctgtc | ctgatatgctt | tgatgaaggc | agatctggaa | tttttgaatt | caaacctcta | 60 |
| gctacatcaa | acttggtccc | cacagaggca | aagcaccaag | gaagtgaaca | ggctgtgaaa | 120 |
| gtttcagggtc | aacgtcattc | tcaaccattt | gcatcactgt | cttcagttca | gagtgatttg | 180 |
| gctgtctcat | cgaagggaatt | gtgtctatcg | gtaccactc | aagcggttcg | ctcaggggct | 240 |
| agtccacttg | ctgaagctga | tcctgatgga | ttgttaggta | ggaaagagca | gccaataaat | 300 |
| gtgatgcagg | tgacacaact | ggataataaa | gggaatggcc | cttcagtcac | gactgagaga | 360 |
| ctctctgacg | atggatataa | ctggagaaaa | tatggacaga | agcatgttaa | gggctgtgaa | 420 |
| tttccacgca | gctattacaa | atgtacctat | cctaattgtg | aggtgaaaaa | gcttttcgaa | 480 |
| cgtgctcctg | atggacatat | tacagagatt | atctacaaag | | | 520 |

<210> 1239
 <211> 489
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 1239 | | | | | | |
| ctcagatgtg | ggacaagctg | agggagatta | aaaattcatt | gcttggacct | gaatctgata | 60 |
| tcagtgatag | ctgcaattgt | tgcttaaata | gtgggagcca | ccaattcacg | tcaactgggc | 120 |
| agtgggatgt | acgtcagatg | atagagatga | tccttaaaat | tggatttgaa | ggacatgctg | 180 |
| attttctgtg | cacaagcagt | tgccgaagct | gacatgccta | agacagctgc | tttgatggag | 240 |
| gtggttagaga | ggatgggtgc | tgtctcagga | gatccaatcc | aacggttggg | tgcttactta | 300 |
| ttagaagggc | ttagagcgag | gttggaatca | tctgggagca | taatctacag | aaagctcaag | 360 |
| tgcaaagagc | ccactggctc | ggaattgatg | tcttacatgt | ccatcctcta | tcagatttgt | 420 |
| ccatactgga | agtttgcccta | cgagtcggca | aatgttgtaa | ttggggaagc | tataaagtac | 480 |
| gagtcaaga | | | | | | 489 |

<210> 1240
 <211> 306
 <212> DNA
 <213> Eucalyptus grandis

| | | | | | | |
|------------|-------------|------------|-------------|------------|------------|-----|
| <400> 1240 | | | | | | |
| gccaacgctc | accnccttgg | cagctgaggc | agcggcgggc | gccgaggagg | cagcagtgag | 60 |
| ggcctcgtag | tggcaccgct | tgtgcccgcc | gagagcgtgg | ccggtgggga | agctcttgtg | 120 |
| gcagatcgcc | ggaggagggtg | gttgccgcgg | aggtctagggt | ggccggttgt | tcgtccgcgc | 180 |
| cggcgaagag | aaagtgtgct | ggggagagag | agagcgtgca | gagaggtaga | agagagagaa | 240 |
| gagagaggag | agagaacgtg | aaaggaggca | gaagagagag | agtgcagcga | ggggagagag | 300 |
| aggaca | | | | | | 306 |

<210> 1241
 <211> 366
 <212> DNA
 <213> Eucalyptus grandis

<400> 1241
gagcattttc ttcattcctta cccaaaggat tctgacaaaa tcttgcttgc aaggcagaca 60
ggcttgacaa gaagtcagggt ctctgaattgg ttcattcaatg caagagtgcg tctctggaaa 120
cctatgggtcg aagaaatgta caaagaagag attgggggatg cggaaatgga ctccaactca 180
tcctccgaca cagccaagcc aaaaacagga gatattcaagt cctccatgga ggaccgggtg 240
gaagaagtgc aacagagtgc aacagctaca cagagatgca gctcaggcca gctcatggac 300
tcattcattcg accggactcc agatgtcgaa atggcaggcc actctgtggg attcaactac 360
ctgaac 366

<210> 1242
<211> 340
<212> DNA
<213> Eucalyptus grandis

<400> 1242
cttcggcctc gtcgaccacc ggaatggcat gggcgtcgcg aacgccggcc tcgtgtactt 60
cgacggccac ctctctcgga tgtccgagga cgacctcccc taccacgtgc gcgtcacgcg 120
ctccggcgac ctcgagaccg tcggccgcta cgacttcgcc ggccagctcg actctccgat 180
gatcgccac ccgaagatcg acccggtcttc cggcgagatg ttccgctctg tcaagtactt 240
ccgattctcc aaggacggcg agaagtcccc cgacgtcgag atccccctgg ctgagccgac 300
catgatgcac gatttcgcat accgaacgct ttgtcgtgat 340

<210> 1243
<211> 684
<212> DNA
<213> Eucalyptus grandis

<400> 1243
ctctctctcc ctctcccccc taacgtttct ggccctcttc tttgtctgga caaaaagatg 60
ggaagaaagt gctctcgctg tgggaacata ggccataact caaggacttg cacaactttc 120
atgggggagc caagtctctg tgggctcaag ctcttcgggtg ttcaacttga cctattctct 180
tcttctctcc ctctcatcag agcatctagt ggttctgctc atccttattc acttgtcata 240
aagaagagcc tcagcatgga tcgtctgtct tcttctctcg cctcctctcc gtctccatct 300
tcattccctct cctcgccaag agttcttgcg gatgaacact gcaataagac ctccctcgga 360
tatctctctg atggcctcgc cgccagatcc caggagaaaa ggaaaggagt tccatggacg 420
gaagaagagc atcgacatt cttaatgggg ctagagaaga tggggaaagg cgattggaga 480
ggcatctcca ggaactatgt gaccacgaga accccaaccc aagtcgcgag tcatgcgcaa 540
aaattctttc tccggcaggc cagtcttaat aagaagaagc ggcggtccag cctcttcgac 600
atgggtagtt ttcggttaacc atgtcacaaa tccatacatt aattgggcac caaactcacc 660
gaaagaaaac tcagagtctt ttca 684

<210> 1244
<211> 329
<212> DNA
<213> Eucalyptus grandis

<400> 1244
cggccccgca gcttggtcgg cgtacctcag aaatggctca aatggtttgt ggttctctgcc 60
aaagattgat ttcattatcg ccaggagcca aatatgtgca atgcttatgc tgcaagacga 120
ttaactttgt gttggaagag catctgggtg gacaagttaa gtgtggtaca tgtgcgatgt 180
tgcttatgta cccgatggc gctccagcag tcaagtgttc ggctgcccgt tctgtgacag 240
aaattgggga gcacaacaaa aggacccccat gggcggtaca gcaagggaga cttccccctc 300
ccagtacagt tccttgatgg gcacacgca 329

<210> 1245
<211> 383

<212> DNA
<213> Eucalyptus grandis

<400> 1245
ctccaacgcg cgccttcttc tcctggactc ctctgagctc tctccatctc ctccggctcg 60
gcgcgccgt cgctcgacgg cgacgactcg agggtttcca tataattcac ttgaaagaag 120
ctgcagaatg ccgtggaaaa caggacttac cggctctaaa acggaagaag ataaggctct 180
gcagctttgt cgggagagaa aaaaatctgt taggcaagct gttgatggtt ggggctccct 240
tgtgtatgca catttcatgt ttgtgcaatc attaaggaac gtagggacag ctctcacaaa 300
gttctttgaa acagaatctc caaatgggtc tcctcgtat gcctcaatga gtacaacacc 360
tgagccaatc gcattaaccg aga 383

<210> 1246
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 1246
gctcttcgaa cactttctcc acccctaccc gaaggattcg gacaaagtca tgctggccaa 60
acagacaggg ctactagaa gccagggtgc gaattggttt ataaatgctc gagttcggct 120
ttggaagccg atggtggagg agatgtacac ggaggaaatc aaggagcaag aacagaatgg 180
gggaggagca gaggaaaaac caagcaagag tgaacgcgag gactcagcat ccaagtcctc 240
tggcctccag gacaaggccc ccaactccaa tgagaacagc accaagagct tcaaaccaaa 300
ggagatcacc tcgaggaacc acgacacccc tgccatctct actaattcgg ctctcctccat 360
cgggggaaac gtccgcagca 380

<210> 1247
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1247
gcagccgagt cgagcaagaa actaacgaac gcccggtgtc attaggattc ataatccaca 60
agaacaaaag aaaaaaggat catgggaaga tccccatgtt gcgaaggcaa tggcctgaag 120
aaagggccct ggtcttctga ggaagacaag aagctccttg attttatcca gcagcacggc 180
catgggagct ggatctctct ccctaaacgt gcaggcttta atagatgtgg caagagctgc 240
agattgagat ggataaacta cttgtggccg gacatcaaga gagggagttt ctccccggaa 300
gaagaacaaa ccatcttgca tctccactcc gtgctcggaa acaaatggtc ggcgatcgca 360

<210> 1248
<211> 351
<212> DNA
<213> Eucalyptus grandis

<400> 1248
tttttttttt tttttttttg aaagtaaacy aatttaagat taaattaaat atggggaacc 60
cagctagcta gtcaagtttg aaaatgttgt gccaatcttct gtttctttaa tacaaagttg 120
gggaaaacaa aatttacatc cgctcaaatt tgaggtaaaa aaaaacccta tctcctccgg 180
ctttgacttg tcagccgccc tcagggtgac ttgaatacca ggttcatcgc accggcgggc 240
acaatctcct gcgacgcggg ctgggagtga cgatgctccc cctcgtacgt cagcatcagc 300
atcgttggat cgtcgggggc cctctccacg tgtttctctg cggggcacc t 351

<210> 1249
<211> 419
<212> DNA
<213> Eucalyptus grandis

<400> 1249
gacgagatga tgatgaagaa ggggagcgac ggagggatag cggaggtgaa tcccacgccg 60
aagaaggggg tgacgtccaa ggttggtggac tacattgaga agctgatcgt gaagttcatg 120
tacgactcct ctctgcctca ccaatacctc gccggcaact tcgctcccgt cgccgacgag 180
acccctcccg tcaccgacct ccccgctcgtc ggccatctcc ctgattgctt gaatggagaa 240
ttcgtccggg tgggccccaa tcccagttt gccccggtcg ccggatacca ctggtttgat 300
ggagatggca tggttcatgg gatgcggata aaaaatggca aagctactta cgtctctcgc 360
tatgtgagga cgtcgaaact taagcaagag gagtactatg ggggagctaa atttatgaa 419

<210> 1250
<211> 632
<212> DNA
<213> Eucalyptus grandis

<400> 1250
ccccccgca cgaccggacg gccagtcag attccctcgc cgtcgccgcc gtgaaacgcc 60
ggagcgcacg gcgcacggac ccgacggacg ccgtcctccg ccaccgtcgc cgaggttgag 120
agccatgtcg agcgacgcgc gcgcgcctc cggcgccacc gccgcggcg cggggagtt 180
catgctgttc ggggtcaggg tgggtggtgtt ggaccccatg aggaagagcg tgagcctgaa 240
caacctgtcg gagtacgagc agccccagga cgcggccccc ggcgggcgcg gcgtcggcaa 300
ggacgacgcg ggagcggccg cctccggcta cgcgtccgcc gacgaagccg tcgcgcacgg 360
ctcgaaaggc gggcggcgcg cgagcgcaag cgaggagtcc cgtggacgga ggatgaacac 420
cggctgttcc tgctcgggct acagaaagta ggaaagggcg attggagagg catttcgaag 480
aactttgtga agactcggac gccgaccag gtcgcgagtc atgccccaaa atactttctc 540
cgccggagca accttaatcg gccgtccgcc gccggactta gccttggttg acatcaccac 600
ccgatacggg cactggttgg tacaatgatg ga 632

<210> 1251
<211> 202
<212> DNA
<213> Eucalyptus grandis

<400> 1251
atgcgaaaca tgctcaaaca cccccaacat catgggaagg tggaaagtggg gctgattcgg 60
aggttaacat gttgaaggat tacgcttcag aggactggat tacaggtgtt gaccgcttcc 120
ggttgagctt gggtgaattt cttgataagt tgaataagta tgcggagtcc tctgttcata 180
tgtacgtgtc cttgaaaag gc 202

<210> 1252
<211> 378
<212> DNA
<213> Eucalyptus grandis

<400> 1252
gagataaaga actactggaa tacaagaatt aagcgactgc aacgcactgg catgcctata 60
tatccaactg aggtttgtct gcaagtgtca agtgagaatc aagaaactca taacatgggt 120
aacttgcata ctgcaggcga agataattgt gatctctcac aggcagatcc actcgagatc 180
ccagaggtgg attttgaaa actggaactg catcttggtt tctcgtcttt ttggtctaca 240
cttctggacg ttctccttg tggctttggg agagaggcaa tgtgtctatc tgatgcttac 300
tgccttccat ttccatcaag ccggtctcct aaacgccttc ggggttctga gacccattt 360
cctgtcttgg atgctgga 378

<210> 1253
<211> 388
<212> DNA
<213> Eucalyptus grandis

<400> 1253
 gtgatttttag tgcctcgatac tttgaaaagg gcatcaatac agtcaaacga gataaaaaga 60
 cataacatgc aaaactcaat acatgattct cagaaaagac catcatcttt aattcagtc 120
 aacgaggctg tttttacgca aacttcgggtc ataagctgtg ccttgcaatc gtttggttaa 180
 cctccaaatg ctaagggtcac ggtcacattc ctctctgatc tttgagcagc tcatggcacc 240
 aacgtccaag gaacatttct taaaaaggat gatccaaaag ttactgctct gattcaacaa 300
 gccgagctgc tcagttccct tgcggtgaaa gtcaatgcag ataacatgga ccagagtctt 360
 gaaaatgctt ggaagggtct ccaggaat 388

<210> 1254
 <211> 380
 <212> DNA
 <213> Eucalyptus grandis

<400> 1254
 cgacgatcgg gtcgggtcgg ttcggggcgtc gccatgacgc ggcgggtgctc ccactgcagc 60
 cacaacggcc acaactcccg gacctgcccc gcccgcgcg ggcggcgcg cgccggggga 120
 ggcggcgctga ggctcttctg ggtgaggctg acggacggct cgatcatcaa gaagagcgcc 180
 agcaccagca gcctctcgtc ccaccacctc ctccccccct cctcctcgcc gtgcgcttcg 240
 ccttcgccgt cgccgtcgcc ggccgcgggc tcgcccgcgt cgggcgacca ccactacgac 300
 caccaccacc accagcagcg cgaccgggac gggacttgtt ccgacgatcc cgcgcaagg 360
 gcctgcgctt ccgatcgccg 380

<210> 1255
 <211> 350
 <212> DNA
 <213> Eucalyptus grandis

<400> 1255
 ccctcatagc gaaatgggta ttctctcca caatatggca atggacctgc atatcacct 60
 atgccaacat actaccgat gggctacagg atctgtgctg gatgcaatac agagattggt 120
 catggacggt ttttgagttg catgaatgct gtttggcatc ctgaatgttt ctgctgccgt 180
 gcttgacacc tgccaatttc tgattatgag ttttctttat caggcaatta tccttaccat 240
 aaatcttgct acaaggaaca ctaccacca aagtgtgatg tctgcagtca ctttatccct 300
 acaaaccttg ccggtcttat tgagtacagg gcgcacccct tttggagtca 350

<210> 1256
 <211> 377
 <212> DNA
 <213> Eucalyptus grandis

<400> 1256
 tctcaatggg attagcggaa agaagaacca ccagagggag gattcagaat ttgaagatga 60
 gaggagtaac aagcagacag cagtgtatgt tgatgacacc gagctatccg agatgatgga 120
 taaattggtg gtctgtcata tttaaaggcaa gagtgcagat tcaaagtctg atgaatcctc 180
 taaaaaagaa gtaagtaaat ctttacagca gaatagacag acacacactg ctgatgggtg 240
 gaagtttcat aataagaaac caacccaac cagcaatatg acagagatgg tggatctcag 300
 aactttgttg atcctttgtg cacaagctgt ctcttctgac gatcgaagga ctgctaata 360
 ctatctaagg cagattc 377

<210> 1257
 <211> 651
 <212> DNA
 <213> Eucalyptus grandis

<400> 1257
 actcgtggcg ctgtttcgag ctttctagct tccggaggag gagggtggt gttgagcgaa 60

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| acttgagag | gtcatgaatt | cgacaaccac | tcagtttgtg | tcctctagaa | ggatggggat | 120 |
| gtatgacccg | attcaccaaa | ttggaatgtg | ggacgagaac | ttcaagcaga | atggaaatcc | 180 |
| taatgcgccg | ccagctctga | tcatacctat | gcacgcgaat | ttggacaacc | agtcggagga | 240 |
| tacttctcat | ggatcacagg | atactgctgg | caagtatgag | caagaaacat | cgaaacctta | 300 |
| tgataagggtg | caaagacgtc | ttgccccaaa | ccgtgaggct | gcgcgcaaaa | gccgtctgcg | 360 |
| gaaaaaggct | tatgttcagc | agctagaagc | aagtcgtttg | aagcttatgc | agttagaaca | 420 |
| agaggttgac | cgagctaggc | aacaggggtg | gtacatggct | tcaggagtag | attcagctta | 480 |
| tccaggatat | ggtggatggt | taaattcagg | aatcgttgca | tttgagatgg | agtacgggca | 540 |
| ctggattgat | gaacagaata | gacaaatatg | tgagctgagg | gctgctttga | atgatcatag | 600 |
| aactgacgta | gagcttcgca | tcctcgtgga | aagtggcatg | aaccactatt | c | 651 |

<210> 1258

<211> 311

<212> DNA

<213> Eucalyptus grandis

<400> 1258

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| gacgagatga | tgatgaagaa | ggggagcgac | ggagggatag | cggaggtgaa | tcccacgccg | 60 |
| agaaggggggt | gacgtccaag | gttgtggact | acattgagaa | gctgatcggtg | aagttcatgt | 120 |
| acgactcctc | tctgcctcac | caatacctcg | ccggcaactt | cgctcccgtc | gccgacgaga | 180 |
| ccccctccgt | caccgacctc | cccgtcgtcg | gccatctccc | tgattgcttg | aatggagaat | 240 |
| tcgtccgggt | gggcccgaat | cccaagtttg | ccccggctcg | cggataccac | tggtttgatg | 300 |
| gagatggcat | g | | | | | 311 |

<210> 1259

<211> 588

<212> DNA

<213> Eucalyptus grandis

<400> 1259

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| cctagctgaa | actattactc | ccactgggttc | tctctctctc | tctctctctc | tctctcaaac | 60 |
| atggctgaat | tagattattg | ccaaacccaa | agcagccccg | gcgctgccgc | cacgcgctta | 120 |
| aagctcttcg | gcttcaacgt | ctccgatgag | gaagactcag | ccgtcagcga | ccccattact | 180 |
| gttggcgcgga | acggcgccgg | cggcgccgga | ggcggaaggt | ccacgccgtc | gggctcgccg | 240 |
| gaaggcagcg | tcccgggtgg | ggcgccgggc | gagcggaagt | acgagtcca | gtactgctgc | 300 |
| aggggaattcg | ccaactcgca | ggccctgggg | ggccaccaga | acgcgcacaa | gaaggagagg | 360 |
| cagcagctca | agcgcgccca | gctgcacgcc | agccggaacg | ccgccgtgtc | gtcgtcgtc | 420 |
| cggaaaccca | tcattctcgg | cttcgctacg | ccgccgcacc | tgctggccac | cgtggggccg | 480 |
| gtggtggtga | cggggggcgg | gccacctcc | ccgtcctggg | tttacgttcc | gcgtggcgcc | 540 |
| ccgcccttcc | aagtgtcgca | cggctgcgtg | ttcacgaccg | gccaggga | | 588 |

<210> 1260

<211> 620

<212> DNA

<213> Eucalyptus grandis

<400> 1260

| | | | | | | |
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| tgaaaatcgt | attgtcctct | ttcgtcttga | tgcggtgaag | aactaaaaga | aggagccaca | 60 |
| aacactgagg | aataaacctt | agaactacca | aataaggaga | gcccacggga | ctcgttttct | 120 |
| tgtatgccac | aacggtccga | accttctttt | ggtgaggccg | gggagcaaac | tatcgttttct | 180 |
| tcgacgaggg | tattgacatc | cttcgaacca | cctgcactcc | tcctgttccg | atccggccat | 240 |
| ggatgattga | gaaaagagtt | gagaactgat | gacgatgacg | atcttgcttg | ttgctgcttc | 300 |
| atatttgcac | gctggagaat | ctggctcgact | ttcggtatgt | gccctacgaa | gctgcagttc | 360 |
| acctcggggt | gattaccgat | cagctgggtg | cacgggaagt | tcgtcttcgc | gttcctccct | 420 |
| cggagaagcc | aggccgcgct | gtcgtgaagc | aaggcggtt | cctcggcgct | attgaaagtg | 480 |
| cccagccaca | gcctcagctt | cagcgtggag | tccttgatct | cggcgaccca | tcttcccga | 540 |
| ggcctttgtc | tcaccccag | aaaccttctc | attgcatcat | caccttctgc | tcttctcttg | 600 |

atgtttctcc tcatggctat

620

<210> 1261
<211> 562
<212> DNA
<213> Eucalyptus grandis

<400> 1261
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atgccaccat atggggccacc ttatgctgca atatactcac atggaggtgt ttatggacat 240
cctgcaattc ctcttactcc gactcccttg gctgcggaaa ctctataaaa gtcattctgt 300
aattctgata atggactggg gaagaagttg aaaagttttg aagggttgc aatgtcaata 360
ggcagtgggg gggatgcaga cagtgctgac gatgggactg ataaaagggtc atcacagagt 420
gcagactcgg gagactcaag tgatgaggat caatcagggg cagataaagc caggaggaaa 480
agaagccgtg aaggaacttc atccaatggc gatggaaaat ctgaagtgcaggaggaaaggct 540
gctggggagg tggtatgctgt tt 562

<210> 1262
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1262
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tacgactcct ctctgcctca ccaatacctc gccggcaact tcgctcccggt cggcgacgag 180
acccctcccg tcaccgacct ccccgctcgt gcccatctcc ctgattgctt gaatggagaa 240
ttcgctccggg tgggccccaa tcccagttt gcccggtcgg ccggatacca ctgggttgat 300
ggagatggca tggttcatgg gatgcggata aaaaatggca aagctactta cgtctctcct 360
atgtgaggac gtcgaaactt aagc 384

<210> 1263
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1263
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gcttcattcc ctgcgctagc aacgcatttc aatggaagta tgctaattgat actaatcat 180
ctggtgaaag tcacacacgt aatggaaggc cagcaggaga tgccagggga aggaatcaat 240
tacttctctg ttactggccc aggataacag atcaagagct acaacaaatc tcaggagact 300
cgaactctgt aatcactcct ctgtttgaga aaatgttgag tgctagtgat gcaggtaaaa 360
ttggacgttt agtgcgtgcca a 381

<210> 1264
<211> 316
<212> DNA
<213> Eucalyptus grandis

<400> 1264
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tgcgagcggg ggtcccgaac gtgtccagga tggacaaggc gtccctgctc tccgacgcgg 180
tgtcctacat caacgagctc aagtccaaga tcggcgatct ggagtcccag ttgcagagag 240